REPORT RESUMES

ED 003 448 24
OPEN AND CLOSED MINDEDNESS AND PERCEPTIONS OF LEADER BEHAVIOR.
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REPORT NUMBER CRP-S-045 PUB DATE 64
EDRS PRICE MF-$0.18 HC-$4.32 108P.

DESCRIPTORS- ELEMENTARY EDUCATION, SECONDARY EDUCATION, *PERCEPTION, *LEADERSHIP QUALITIES, *PRINCIPALS, *QUESTIONNAIRES, PERSONALITY ASSESSMENT, PSYCHOLOGICAL STUDIES, *ADMINISTRATOR ATTITUDES, LEADER BEHAVIOR DESCRIPTION QUESTIONNAIRE (LBDQ), ROKEACH DOGMATISM SCALE, UNIVERSITY PARK, PENNSYLVANIA

THIS STUDY PROPOSED TO DETERMINE, IN A SCHOOL SETTING, IF PERCEPTION ACCURACY WAS RELATED TO PERSONALITY STRUCTURE. TWO SECONDARY AND ELEMENTARY PRINCIPALS WERE SELECTED FROM EACH OF 12 SCHOOL DISTRICTS. THE LEADER BEHAVIOR DESCRIPTION QUESTIONNAIRE (LBDQ) AND THE ROKEACH DOGMATISM SCALE (RDS) WERE ADMINISTERED TO THE SUPERINTENDENTS, PRINCIPALS, AND TEACHERS OF THE 24 SCHOOLS IN THE SAMPLE. FROM THE TEST RESULTS THE PRINCIPALS WERE RANKED ACCORDING TO OPEN-MINDEDNESS AND CLOSED-MINDEDNESS. SIGNIFICANT RELATIONSHIPS WERE FOUND BETWEEN THE SELF-PERCEPTIONS OF THE PRINCIPALS AND PERCEPTIONS BY THEIR SUPERINTENDENTS, AND BETWEEN STAFF PERCEPTIONS AND SUPERINTENDENT PERCEPTIONS. THE FINDINGS OF THE STUDY WERE FELT TO NEED FURTHER INVESTIGATION. RELATED MATERIAL MAY BE FOUND IN ED 010 216. (RS)

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FINAL REPORT

OPEN AND CLOSED MINDEDNESS AND PERCEPTIONS OF LEADER BEHAVIOR

Cooperative Research Project No. S-045

John C. Croft

The Pennsylvania State University
University Park, Pennsylvania

1964

The research reported herein was supported by the Cooperative Research Program of the Office of Education, U. S. Department of Health, Education and Welfare.

ED 003448

ACKNOWLEDGMENTS

The writer expresses his sincere appreciation to his advisor and chairman of his committee, Dr. Donald J. Willower, for his advice and helpful criticism throughout the progress of this study. Special thanks is extended to the members of the doctoral committee, Dr. Earl E. Edgar, Dr. Ronald G. Jones, Dr. Franklin A. Miller and Dr. Deno G. Thevaos, for their aid and assistance throughout the writer's doctoral program.

The writer appreciates the granting of a graduate assistantship by the Department of Educational Services, College of Education, which made the beginning of doctoral study possible.

A very special thanks is expressed to Dr. Howard F. Hjelm and the U. S. Office of Education, Cooperative Research Branch, for the Small Contract Grant which eased the financial problems connected with this research.

Finally, to those superintendents, principals and teachers who so willingly gave of their time to this basic research effort, an open and never completely repayable debt of gratitude is felt.

The research reported herein was supported by the Cooperative Research Program of the Office of Education, U. S. Department of Health, Education and Welfare.

TABLE OF CONTENTS

Page

ACKNOWLEDGMENTS ii

LIST OF TABLES v

LIST OF FIGURES vii

CHAPTER

I INTRODUCTION

Setting of the Study 1
The Focus and Purpose of This Study 1
Background of This Study 2
Statement of the Problem 6

II THE DEVELOPMENT OF HYPOTHESES

Open and Closed Mindedness 8
Leader Behavior Dimensions 8
Theoretical Framework 10
Hypotheses 14

III PROCEDURES

Introduction 18
Measurement Problems 18
Instruments 23
Selection of Sample 24
Administration of Instruments 25
The Pilot Study 27
Scores 29
Statistical Testing of the Hypotheses 30

IV ANALYSIS AND RESULTS

Introduction 36
Computer Procedures 36
General Sample Characteristics 37
Major Findings 39

CHAPTER Page

Special Considerations of Dogmatism 48
Differences Between Elementary and Secondary Principals 50
Comparison with the Evenson Findings 52
Discussion 53
Summary 59

V IMPLICATIONS

Basic Assumption of This Study 61
Implications for Methodology 62
Implications for the Profession 63
Implications for Theory 64
Suggestions for Future Research 64

BIBLIOGRAPHY 67

APPENDIX

A SUPERINTENDENT'S QUESTIONNAIRE 71

B PRINCIPAL'S QUESTIONNAIRE 79

C TEACHER'S QUESTIONNAIRE 88

D COMPUTER PROGRAM FOR TABULATION OF RESPONSES FROM QUESTIONNAIRES. 96

E SCORING KEY FOR THE ITEMS OF THE LEADER BEHAVIOR DESCRIPTION QUESTIONNAIRE 98

LIST OF TABLES

TABLE		Page
I	Scores to Be Used in the Statistical Analyses of Data	38
II	The Procedures Used for the Statistical Testing of Hypothesis Three	40
III	The Procedures Used for the Statistical Testing of Hypothesis Four	41
IV	The Procedures Used for the Statistical Testing of Hypothesis Five	43
V	The Procedures Used for the Statistical Testing of Hypothesis Six	44
VI	An Illustration of the Procedures Used in the Statistical Testing of Hypothesis Seven	46
VII	An Illustration of the Procedures Used in the Statistical Testing of Hypothesis Eight	47
VIII	The Number of Teacher-Respondents Classified According to Dogmatism and Age	48
IX	Results of the t-Test for Significance of Differences Between Male and Female Teachers on Dogmatism	49
X	Differences Between Elementary and Secondary Principals on Dogmatism, Self-Perceptions, Perceptions of How Others View Their Leader Behavior, and the Actual Perceptions of Them by Their Superintendents	51

TABLE Page

XI A Comparison of Self-Superintendent Perceptions, Staff-Superintendent Perceptions, Self-Staff Perceptions in the Evenson and the Present Study 53

XII The Number of Schools in This Study Classified According to Size and Difference Scores on Initiating Structure and Consideration 55

LIST OF FIGURES

FIGURE Page

1 Quadrant Scheme for Clarification of Hypotheses Seven and Eight 16

2 Model for Statistical Analyses of Hypotheses Three Through Six 32

3 Model for Statistical Analyses of Hypotheses Seven and Eight 34

CHAPTER I

INTRODUCTION

Setting of the Study

Within the school system, the building principal in the center of the administrative hierarchy is faced with a dilemma. He must deal with at least two important referents, his teachers and his superintendent, who may have different perceptions of his behavior. To be fully effective he must rate high in the perceptions of both of these groups. In the working situation the effective principal will "get things done" and accomplish this through teachers without jeopardizing their integrity. To do this he must be able to assess the perceptions of his behavior which are made by both his superintendent and his teachers.

The Focus and Purpose of This Study

Research has indicated that certain personality characteristics of the perceiver influence his perceptions of other people. Jones found that the person with "authoritarian" tendencies is more likely to view others in terms of power and is less sensitive to the psychological or personality characteristics of other people than is a "nonauthoritarian."[1]

The purpose of the present study was to investigate in a school setting whether accuracy of perception is related to personality structure, as measured by the Rokeach Dogmatism Scale.

Background of This Study

The findings of Rokeach suggest that important aspects of mental functioning are attributable to personality rather than to intellectual ability as such.[2] In the field of educational administration, the study of personality characteristics as a factor of administrative success is not entirely new. McVey found that, using a theory of personality developed by Fromm,[3] effective elementary principals could be distinguished from ineffective elementary principals.[4] Halpin and Croft discussed the concept of "authenticity" in behavior as a desirable characteristic in administrators.[5]

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[1] Edward E. Jones, "Authoritarianism as a Determinant of First-Impression Formation," Journal of Personality, XXIII, September, 1954, pp. 107-27

[2] Milton Rokeach, The Open and Closed Mind (New York: Basic Books, Inc., 1960).

[3] Eric Fromm, Man for Himself (New York: Rinehart and Co., Inc., 1947).

[4] Richard C. McVey, "Personality: A Key to Administrative Success," Administrator's Notebook, V (8), April, 1957.

[5] Andrew W. Halpin and Don B. Croft, The Organizational Climate of Schools (Washington, D. C.: U. S. Office of Education, July, 1962).

> The principal who scores high on Thrust is not enslaved by a narrow definition of his role, nor does he seem to be preoccupied with his status. He is more intent on task accomplishment, on getting the job done, and on moving the organization toward its goals. (Note, however, that he does this without sacrificing Consideration.) In a sense, he is willing to "unfreeze" the organization from one stage of its development -- even if that stage be highly satisfying to the group members in terms, for example, of Esprit or Consideration -- and to take the risk of change, confident that such change will result in a higher order of organizational development which, in turn, will permit a greater congruence between the social needs satisfaction of individual group members and the specification of their roles. To take this risk and to gamble on the outcome of "unfreezing" the organization, the principal "must stand for something." He also must be open in letting his teachers and the school's patrons know what, indeed, he stands for. In short, he must be "authentic."[6]

The parallel between the open-minded person, as defined by Rokeach, and the authentic person described by Halpin and Croft was not accidental. At one point Halpin and Croft acknowledged the influence of Rokeach upon their choice of names for the open-closed continuum of organizational climates. The previous passage indicated why a person would be effective who would not have to rely or depend upon "external pressures" or outside authority that could possibly distort his perception, influence his evaluation, and direct his action. Research by C. Gratton Kemp in the related field of counselor training emphasized this point.

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[6] Ibid., p. 106.

> The open minded, who could be expected to be more aware of their reactions to stimuli, who have less need to narrow and distort, and who normally consider ideas on their own merits, are better integrated, experience less threat, have less anxiety, and are more permissive in their normal relationships. They respond this way and therefore are more understanding and supportive in their responses in the beginning.
>
> In the actual situation which demands a somewhat immediate, less considered response than that which is possible in responding to situations on a page, their responses resemble those on the "Test" since this is in accordance with their genotypical response repertoire.[7]

However, implications which conflict with the theoretical assumptions of Rokeach were found in a study which used the Dogmatism Scale in the field of educational administration. Erickson concluded that similarity of personality structure did not account for perceptual similarity among superintendent-principal, principal-teacher, or superintendent-teacher relationships.[8] Since the present investigation was intended partly as a refinement of the Erickson study, a discussion follows.

Erickson used the Rokeach Dogmatism Scale as a measure of personality structure, and the Leader Behavior Description

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[7] C. Gratton Kemp, "Influence of Dogmatism on the Training of Counselors," Journal of Counseling Psychology, IX (2), Summer, 1962, p. 156.

[8] Eldridge Albert Erickson, "A Study of the Relationship Between Personality Structure and Perception" (unpublished Ed.D. Thesis, Colorado State College, 1962).

Questionnaire (LBDQ) developed by researchers at Ohio State University[9] as a measure of perception. Both measures had forty items. A description of the steps in the scoring of these scales will explain how Erickson measured congruence of personality structure and congruence of perceptions and the correlation between these two factors. A discussion of theoretical problems in this study is delayed until the next chapter. The procedure of analysis was as follows:

1. Compute mean scores on each of the forty items for the teachers in each school.
2. Compare this mean score on each item, for each faculty, with the score of the principal and the superintendent, item by item.
3. Congruence of perception was operationally defined as agreement on LBDQ items. Congruence of personality was operationally defined as agreement on Dogmatism Scale items.
4. Using a two-by-two contingency table, chi square was computed between the scores of superintendent-principal, principal-teacher, and superintendent-teacher in each of the four school systems.
5. Using the obtained chi square, a contingency coefficient (C) was computed, following Siegel, as a measure of correlation. A high correlation indicated that congruence of perception (if using the LBDQ items), or personality structure (if using the Dogmatism Scale) exists.
6. To find the relationship between congruence of personality structure and congruence of perception, the measured differences between each teacher and his principal (and principal-superintendent, teacher-

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[9] Ralph Stogdill and Alvin Coons (eds.), Leader Behavior: Its Description and Measurement (Research Monograph No. 88, Bureau of Business Research, Columbus, Ohio: Ohio State University, 1957).

> superintendent) were squared, put in rank order, and a rank order correlation coefficient was computed for each school. Using total scores for persons on both the LBDQ and the Dogmatism Scale, this "distance method" measured the association based on rank order of the faculty on the two variables.

Using the above techniques, Erickson concluded that "no relationship existed between perceptual congruence and similarity on personality structure as measured by the Dogmatism Scale."[10] However, "principals who scored low on the Dogmatism Scale tended to view the superintendent's behavior more like the superintendent's own self-perceptions."[11]

Although these two conclusions appear to be contradictory, neither one appears to reject the theoretical assumptions of Rokeach. It would seem that an open-minded principal (low scorer on the Dogmatism Scale) would be able to make more accurate judgments of the perceptions of his behavior by other people because he would receive information with less distortion from within himself or outside, and thus be able to evaluate and act on this information on its own merits.

Statement of the Problem

The main question of this study was: What is the relationship of the personality structure of the principal and the teachers to the principal's accuracy of perceptions? This required answers to the following questions:

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[10] Erickson, op. cit., p. 80.

[11] Ibid.

1. What is the personality structure of the principal?
2. What are the personality structures of the teachers?
3. What effect does the personality structure of the principal have on the ability to make accurate judgments of the perceptions by his teachers of his behavior?
4. What effect does the personality structure of the principal have on the ability to make accurate judgments of the perceptions by his superintendent of his behavior?

Another question which was related to all of the above and required an answer was the following:

5. How does congruence or incongruence of personality structures affect the atmosphere of the school?

To investigate these questions, certain hypotheses were developed from a review of current literature on the problem of perception and leader behavior. These hypotheses then served to guide the empirical phase of this study.

CHAPTER II

THE DEVELOPMENT OF HYPOTHESES

Open and Closed Mindedness

Rokeach defined a given personality as an organization of beliefs or expectancies having a definable and measurable structure. The Dogmatism Scale has been developed by Rokeach to measure the extent to which belief systems are open or closed. An open-minded individual (ideal, pure, polar type) receives stimulus information without distortion, and evaluates and acts on that information on its own merits unencumbered by irrelevant factors coming from within himself or from the outside. The role of external pressures is minimized for the open-minded person. Conversely, a closed-minded individual (ideal, pure, polar type) receiving information will be vulnerable to rewards and punishments meted out by authority figures and reference groups that will distort his perception, influence his evaluation and direct his action.

Leader Behavior Dimensions

Within the school, the principal is perceived as exhibiting behavior along two dimensions which can be identified by items in the LBDQ.

> Initiating Structure refers to the leader's behavior in delineating the relationship between himself and members of the work group, and in endeavoring to establish well-defined patterns of organization, channels of communication, and methods of procedure. Consideration refers to behavior indicative of friendship, mutual trust, respect, and warmth in the relationship between the leader and the members of his staff.[1]

The LBDQ was utilized by Halpin to measure the leader behavior of school superintendents on the dimensions of Initiating Structure and Consideration. Halpin found that eleven out of fifty superintendents were described as scoring high on both Consideration and Initiating Structure by both their staffs and their school boards.[2] In a replication of this study with focus upon the high school principal, Evenson reported substantially the same findings.[3] He concluded that,

> the two kinds of leader behavior measured in this study are important, relatively independent, not incompatible, and provide a useful framework for studies of leadership. While Consideration and Initiating Structure do not constitute exclusive criteria of leadership effectiveness, they do afford criteria which should be taken into account in evaluating leadership skills.[4]

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[1] Andrew W. Halpin, *The Leadership Behavior of School Superintendents* (Chicago: Midwest Administration Center, The University of Chicago, 1959), p. 4.

[2] *Ibid.*, p. 78.

[3] Warren L. Evenson, "Leadership Behavior of High School Principals," *National Association of Secondary School Principals Bulletin*, XLIII, September, 1959, pp. 96-101.

[4] *Ibid.*, p. 101.

The two leader behavior dimensions are useful in this study in measuring the perceptions of the principal by his superintendent and his teachers, and in measuring the principal's accuracy in judging these perceptions.

Theoretical Framework

The influence of characteristics of the perceiver upon the perceptual process is interesting. Norman showed that when one is aware of what his own personal characteristics are he makes fewer errors in perceiving others.[5] Rokeach describes the opposite type of person in these terms. "Conversely, the more closed the belief system, the more difficult should it be to distinguish between information received about the world and information received about the source."[6] From this it would appear that the hypothesis by Erickson — that perceptual congruence is related to congruence in personality structure — has gained support. However, it was not supported in his empirical investigation.

A major confounding factor in the Erickson study which might be expected in terms of personality theory was that closed-minded persons distorted in different directions. In his study correlations were obtained between personality congruence and perceptual congruence. Thus, two closed-minded persons, such as a principal and a teacher, would also be similar in perceptual structure if a high correlation were found. This would also apply to two open-minded persons. In light of the assumptions of Rokeach this conclusion would not necessarily follow, and indeed it was not supported in the Erickson study.

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[5] Ralph D. Norman, "The Interrelationships Among Acceptance-Rejection, Self-Other Identity, Insight into Self and Realistic Perception of Others," Journal of Social Psychology, XXXVII (2), May, 1953, pp. 205-35.

[6] Rokeach, *op. cit.*, p. 58.

Rokeach describes the open-minded person as unencumbered by irrelevant factors coming from within himself or the outside.

> Examples of irrelevant internal measures that interfere with the realistic reception of information are unrelated habits, beliefs, and perceptual cues, irrational ego motives, power needs, and the need for self-aggrandizement, the need to allay anxiety, and so forth. By irrelevant external pressures we have in mind most particularly the pressures of reward and punishment arising from external authority; for example, as exerted by parents, peers, other authority figures, reference groups, social and institutional norms, and cultural norms.[7]

It would appear then that even though the closed-minded person distorted, the open-minded person would be able to judge this distortion and adjust to it. Erickson, of course, did not measure the ability of the superintendent to "see his behavior" the way his teachers perceived it. He measured the difference between the superintendent's self-perceptions and his principal's, or his teacher's, perceptions of his behavior.

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[7] Ibid., p. 57.

It would seem that personality congruence alone would not account for perceptual congruence. Rather, the types of personality structure of the individuals, who are both perceiving and being perceived, would affect this relationship between personality congruence and perceptual congruence. In speaking to this point, Cantril describes perceiving as a "transaction" between the perceiver and the perceived, a process of negotiation in which the perceptual end product is a result both of influences within the perceiver and of characteristics of the perceived.[8] Bruner, in his concept of "perceptual readiness," describes the importance of the framework or category system that the perceiver himself brings to the perceiving process.[9] In terms of Rokeach, an open-minded principal who distorts less would be able to make more accurate judgments of the perceptions of his behavior which are made by his teachers and his superintendent. This would be true regardless of the particular personality structures of the teachers and the superintendent.

As Zalkind and Costello state, "The administrator who wishes to perceive someone else accurately must look at the other person, not at himself."[10] His characteristics, needs and values can partly limit his vision and his awareness of the differences between others. In a study that used the Dogmatism Scale, Vidulich and Kaiman found that susceptibility to influence by individuals of high and low social status was a function of both the status of the source of information to which the person was exposed, and the dogmatic tendencies of the person being influenced.[11] Open groups did not differ significantly under two source status conditions.

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[8] Hadley Cantril, "Perception and Interpersonal Relations," American Journal of Psychiatry, CXIV (2), August, 1957, pp. 119-26.

[9] Jerome S. Bruner, "Social Psychology and Perception," in Readings in Social Psychology, E. Maccoby, T. Newcomb, and E. Hartley (eds.) (New York: Henry Holt and Co., Inc., 1958, 3rd edition), pp. 85-94.

It seems, then, that the open-minded principal would be able to make accurate judgments of the perceptions of him by others. On another level, an open-minded teacher would be able to do the same. In schools with both open-minded principals and open-minded teachers, the relationship between teachers and principals on this personality structure variable could have an effect on the atmosphere of the school, as measured by the teachers' perceptions of the principal on the leader behavior dimensions. In schools where either the principal or the teachers, or both, are closed-minded, a possible force upon this relationship could be the psychological defense mechanism of projection. An example of projection is seeing one's own undesirable personality characteristics in other people. Relevant to this study is the research of Sears who demonstrated that people high on such traits as stinginess, obstinacy, and disorderliness, tended to rate others much higher on these traits than did those who were low in these undesirable characteristics. The tendency to project was particularly marked among subjects who had the least insight into their own personalities.[12] It follows that closed-minded individuals who distort more tend to project their undesirable qualities to others in the school situation. This could then affect the atmosphere of the school.

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[10] Sheldon S. Zalkind and Timothy W. Costello, "Perception: Some Recent Research and Implications for Administration," Administrative Science Quarterly, VII, September, 1962, p. 229.

[11] Robert N. Vidulich and Ivan P. Kaiman, "The Effects of Information Source Status and Dogmatism upon Conformity Behavior," Journal of Abnormal and Social Psychology, LXIII (3), September, 1961, pp. 639-42.

Hypotheses

The following hypotheses were developed by this writer to refine the Erickson findings and to explore further the relationship between perception and personality structure. The guiding hypotheses of this study are:

1. Open-minded principals more accurately estimate their teachers' descriptions of their leader behavior than do closed-minded principals.
2. Open-minded principals more accurately estimate their superintendents' descriptions of their leader behavior than do closed-minded principals.

At a more specific, operational level which concerns itself with the two dimensions of leader behavior, the next four hypotheses were developed. It is from the empirical support of these four that the previous hypotheses (1 and 2) will derive support.

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[12] Robert R. Sears, "Experimental Studies of Projection: I. Attribution of Traits," Journal of Social Psychology, VII (2), May, 1936, p. 161.

3. Open-minded principals more accurately estimate their teachers' descriptions of their leader behavior on the dimension of Initiating Structure than do closed-minded principals.
4. Open-minded principals more accurately estimate their superintendents' descriptions of their leader behavior on the dimension of Initiating Structure than do closed-minded principals.
5. Open-minded principals more accurately estimate their teachers' descriptions of their leader behavior on the dimension of Consideration than do closed-minded principals.
6. Open-minded principals more accurately estimate their superintendents' descriptions of their leader behavior on the dimension of Consideration than do closed-minded principals.

In order to investigate the atmosphere of those schools with both open-minded principals and open-minded teachers the following hypotheses were developed.

7. In schools where the principal and teachers both score low on the Dogmatism Scale (open-minded), the principal will be described by the teachers as scoring significantly higher on the dimension of Initiating Structure than in schools where either the principal or the teachers, or both, score high on the Dogmatism Scale (closed-minded).
8. In schools where the principal and teachers both score low on the Dogmatism Scale (open-minded), the principal will be described by the teachers as scoring significantly higher on the dimension of Consideration than in schools where either the principal or the teachers, or both, score high on the Dogmatism Scale (closed-minded).

To clarify these hypotheses, the following graphic model is presented.

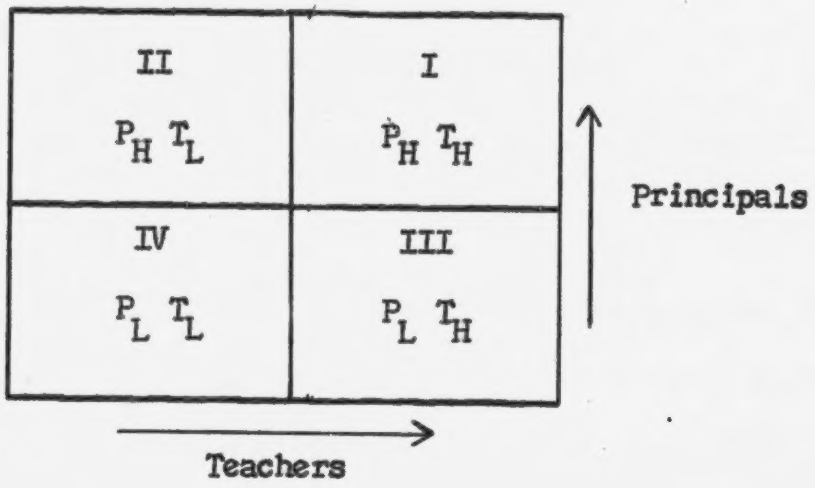

FIGURE 1

QUADRANT SCHEME FOR CLARIFICATION OF
HYPOTHESES SEVEN AND EIGHT

The coordinates of this quadrant scheme represent the divisions between high and low on the dogmatism variable. Quadrant I will contain schools where both principal and teachers scored high on the Dogmatism Scale. Quadrant II schools are those with high principal scores and low teachers' scores. Quadrant III schools are those with low principal scores and high teachers' scores. Quadrant IV will contain schools with both principal and teachers low in dogmatism. Then, a summary of hypotheses seven and eight is that in Quadrant IV schools, the principal will be described as scoring higher on both dimensions of the LBDQ by his teachers.

The hypotheses developed in this chapter guided the empirical investigation which is described in the chapter that follows.

CHAPTER III

PROCEDURES

Introduction

In this chapter the procedures for testing the hypotheses developed previously are discussed. First, certain measurement problems are discussed and decisions on the appropriate type of statistical tests are made, with attention given to the instruments to be used. Second, the proposed sample and the administration of the instruments are set forth. Finally, a listing of the scores is obtained and the specific procedures for the use of these scores in the statistical testing of the hypotheses are discussed.

Measurement Problems

In this section on measurement of dogmatism and differences in perception, several points about certain qualities of the instruments to be used are in order. As Stevens has stated, "measurement involves the process of linking the formal model called the number system to some discriminable aspect of objects or events."[1] A rule for the assignment of numerals or numbers to aspects of objects or events creates a scale. Scales are possible only because there exists a certain degree of isomorphism between the properties of the numeral series and the empirical operations that we can perform with the aspects of objects.[2] Stevens held that,

> these operations are limited ordinarily by the peculiarities of the thing being scaled and by our choice of concrete procedures, but, once selected, the procedures determine that there will eventuate one or another of the four types of scale: nominal, ordinal, interval, or ratio. Each of these four classes of scales is best characterized by its range of invariance — by the kinds of transformations that leave the "structure" of the scale undistorted. And the nature of the invariance sets limits to the kinds of statistical manipulations that can legitimately be applied to the scaled data. This question of the applicability of the various statistics is of great practical concern to several of the sciences.[3]

An important question for the present study is: What kind of scales are the Dogmatism Scale and the LBDQ which are used in this study? Both of these scales deal with discrete measures of continuous variables as do practically all scales in the behavioral sciences. Stevens has noted that most of the scales used widely by the behavioral scientists are ordinal scales.[4] Sometimes psychological measurement aspires to create interval scales and succeeds.[5] According to Stevens,

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[1] S. S. Stevens, "Mathematics, Measurement, and Psychophysics," in S. S. Stevens (ed.) Handbook of Experimental Psychology (New York: John Wiley and Sons, Inc., 1951), Chapter I, p. 22.

[2] Ibid., p. 23.

[3] Ibid.

> the problem usually is to devise operations for equalizing the units of scales -- a problem not always easy of solution but one for which there are several possible modes of attack. The determination of what we call equal sense distances is one obvious procedure. Only occasionally in psychological scaling is there concern for the location of a "true" zero point. Intelligence, for example, is usefully assessed on ordinal scales that try to approximate interval scales. . . . The variability of a psychological measure is itself sometimes used to equalize the units of a scale . . . on the assumption that in the sample of individuals tested the trait in question has a canonical distribution (e. g. "normal").[6]

No research was found which included procedures as mentioned above to create interval scales with the scales to be used in this study. Therefore, it was decided by this writer to treat the data from these scales as ordinal data. In agreement with part of this decision, Sweitzer referred to the LBDQ as ordinal data.[7]

The question about the appropriate statistical methods to use with ordinally scaled data is an unsettled one. Michael and

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[4] *Ibid.*, p. 26.

[5] *Ibid.*, p. 27.

[6] *Ibid.*, pp. 27-28.

[7] Robert E. Sweitzer et al., *Role Expectations and Perceptions of School Principals* (Washington, D. C.: U. S. Office of Education, January, 1963), p. 108.

Hunka illustrate this point.

> Arguing against the compulsive use of nonparametric methods in place of classical parametric methods and for retention of the latter, despite the failure of the scale of measurement to be interval in form, were Cox, Gaito, and Kogan. Believing that nonparametric techniques should serve as exploratory or screening devices, Gaito urged that they be given limited use; Kogan cited the more extensive utility of parametric methods, and also the strikingly "rapid potency of the central limit theorem." On the other hand, in a detailed and systematic paper concerning a distinction between approximate and exact methods in nonparametric statistics, Sawrey strongly implied the importance of properties of the scale of measurement in the decision of the appropriate use of an exact or approximate nonparametric test, as did Senders much more explicitly in her textbook.[8]

It has been demonstrated by Siegel[9] that, in many cases, the use of either method will produce the same result. However, when data barely reach the level of significance, the decisions sometimes differ. Senders has written an excellent chapter entitled "Inferences From Ordinally Scaled Data."[10] Both Senders and Siegel agree on the nonparametric statistical methods as most appropriate for ordinally scaled data.

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[8] William B. Michael and Steve Hunka, "Research Tools: Statistical Methods," in Review of Educational Research, XXX(5), December, 1960, Chapter IV, p. 455.

[9] Sidney Siegel, Nonparametric Statistics for the Behavioral Sciences (New York: McGraw-Hill Book Company, Inc., 1956).

[10] Virginia L. Senders, "Inferences From Ordinally Scaled Data," in Measurement and Statistics: A Basic Text Emphasizing Behavioral Science Applications (New York: Oxford University Press, 1958), Chapter XIII, pp. 426-60.

In summary, the decision has been made to treat the Dogmatism Scale and the LBDQ as ordinal scales. Ordinal scales can identify (1) a relative existence of a variable, such as more dogmatic than . . . or less dogmatic than . . ., and (2) equal amounts of this variable among members of the same class; e. g., people who make the same score on the Dogmatism Scale are equally dogmatic. But they cannot assume a common unit of measurement of the variable in question. In other words, a score of 152 on the Dogmatism Scale may not be the same distance from 151 and 153. The person with this score is only less dogmatic than the person who scored 153 and more dogmatic than the person who scored 151. Two important inferences for the statistical testing of the hypotheses of this study can be drawn. First, as Siegel states, "The statistic most appropriate for describing the central tendency of scores in an ordinal scale is the median, since the median is not affected by changes of any scores above or below it as long as the number of scores above or below remains the same."[11] Second, nonparametric tests are most appropriate for data in an ordinal scale.[12]

A nonparametric statistical test is a test whose model does not specify conditions about the parameters of the population from which the sample was drawn. Also, the assumptions which are associated with most nonparametric tests are much fewer and less stringent.

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[11] Siegel, op. cit., p. 25.

[12] Ibid., p. 31.

Since the measuring instruments used in this study were ordinal scales, it was the decision of the writer to use appropriate non-parametric statistical methods.

Instruments

The Dogmatism Scale. The Dogmatism Scale has been developed by Rokeach to give a measure of the degree of individual differences in openness and closedness of belief systems. This scale has split-half reliability of .85 for an Ohio State University student sample, and test-retest reliabilities of .71 after a five to six month time lapse and .84 with at least a month between tests.[13] Rokeach reported correlations of -.02 with the American Council on Education test[14] and even less with the Wonderlic.[15] Since both are recognized intelligence tests, it would appear that the Dogmatism Scale and intelligence, as measured, are not related.

The Dogmatism Scale contains forty items which are scored by the individual using -3, -2, or -1 on the disagree side or +3, +2, or +1 on the agree side. To determine an individual's Dogmatism Scale score a constant of +4 is added to each item score and these scores are then summed. The range of each item is 1 to 7 with 4 omitted, and the range of the total test is from 40 to 280. A high score identifies a dogmatic or closed-minded person.

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[13] Rokeach, op. cit., p. 90.

[14] Ibid., p. 190.

[15] Ibid., p. 103.

The Leader Behavior Description Questionnaire. The LBDQ has been adapted for use in schools by Halpin. It consists of a series of short, descriptive statements of ways in which the leader behaves. Each item indicates the frequency with which he engages in the particular behavior by the choice of one of five alternatives: always, often, occasionally, seldom or never.

This scale contains thirty items; fifteen Initiating Structure and fifteen Consideration items. These items are scored on a scale from 4 to 0. The range of scores for an individual leader on one dimension is from 0 to 60.

Selection of Sample

From each of twelve school systems in Pennsylvania two schools were selected for this study. Since this study was concerned with the personality structures of building principals in general, one elementary and one secondary school in each system was selected. The total sample of principals studied was twenty-four: twelve elementary principals and twelve secondary principals. Another factor in the decision to sample both elementary and secondary principals was a study by Sweitzer, who found that there were significant differences between elementary and secondary principals regarding their perceptions of the way their superintendent and their teachers viewed their behavior.[16]

In order to insure a certain amount of interaction between principals and teachers or superintendents, it was decided to include school systems with at least one full-time secondary principal serving exclusively in one building, and at least one full-time elementary principal serving exclusively in one building. A further restriction was that both of these principals must have served in their present capacity in this system during the last school year, 1962-63. In addition, the sample consisted of school systems which were not contiguous and which were located in areas of Pennsylvania with greatly different economic and population bases.

Administration of Instruments

The researcher personally administered all instruments. Since this was done in groups, specific instructions were written and included in questionnaires which contained both instruments. Different instructions were given to the various groups and different information was needed from them. The proper instructions were developed and combined with the necessary instruments into one questionnaire. Thus, there was a superintendent's questionnaire, a principal's questionnaire, and a teacher's questionnaire.[17] For the purpose of clarity each of these is discussed separately.

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[16] Sweitzer *et al.*, *op. cit.*, pp. 369-70.

[17] These questionnaires can be found in Appendix A, Appendix B, and Appendix C respectively.

General Instruction Sheet. The first page on all questionnaires was the same. On this page was (1) a short explanation of this study, (2) a guarantee to keep confidential all data relating to specific individuals, (3) a request for certain biographical information, and (4) a short statement thanking the respondent for his participation. The biographical information was collected in order to discover any serendipitous relationships between dogmatism and these factors.

Superintendent's Questionnaire. The first page of this instrument was the general instruction sheet. Following this were the directions and items of the Dogmatism Scale. The superintendent was then asked to rate his secondary principal and his elementary principal on the items of the LBDQ which followed.

Teacher's Questionnaire. The first page of this instrument was the general instruction sheet. Following this were the directions for answering the Dogmatism Scale. After the Dogmatism Scale came the directions for answering the LBDQ items. In order, then, the teacher's questionnaire contained (1) the general instruction sheet, (2) the directions and items of the Dogmatism Scale, and (3) the directions and items of the LBDQ.

Principal's Questionnaire. This questionnaire contained the same general instruction sheet and the Dogmatism Scale. However, the instructions for the LBDQ differed from those in the teacher's and the superintendent's questionnaires. The LBDQ was used here to measure the principal's accuracy in judging the perceptions of his behavior made by his teachers and his superintendent. To provide a suitable framework for answering these items, the principal was first asked to indicate how he perceived his own behavior. Then he was asked to judge how his teachers and his superintendent perceived his behavior on each LBDQ item.

Since the dogmatism variable has been little explored in the field of administration, the Dogmatism Scale was administered to the superintendents although this information was not a main part of this study. However, it was felt that this would help provide some replication for Erickson's findings.[18] For a similar reason, the principals were asked to indicate how they perceived their own behavior on the LBDQ items. This would provide some replication of the Evenson findings with regard to LBDQ Real scores.[19]

The Pilot Study

A pilot study was conducted to ascertain the clarity of directions, and the ease with which the questionnaire could be administered. It was felt that since the teacher's instrument would be administered in group meetings it also was necessary to know how much time would be needed for answering the questionnaire.

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[18] Erickson, *op. cit.*

[19] Evenson, *op. cit.*

Accordingly, appointments were made with four superintendents to explain the purpose of this study and to solicit their participation in the pilot study. All who were contacted willingly participated. Eventually, a total of four superintendents, and, at both the secondary and elementary levels, seven principals and forty-eight teachers responded to their respective questionnaires. The time required ranged from fifteen to thirty-one minutes for superintendents, with an average of twenty-six minutes; seventeen to forty-one minutes for principals, with an average of twenty-nine minutes; and nine to twenty-two minutes for teachers, with an average of fifteen minutes. It was decided that these questionnaires could be administered in a reasonable amount of time.

Although the directions appeared to be clear to all respondents, a few minor changes in format were frequently suggested and thus were included in the final forms of the questionnaires. These were (1) the inclusion of the response scale for FORM O (Dogmatism Scale) on pages three and four, and (2) in the superintendent's and principal's questionnaire, the printing of the page six LBDQ items on the opposite side of page five so that these items could be read on the left while the answer sheet (page seven) was on the right.

In addition to these format changes, it was decided to eliminate the request for the name of the respondent on the first page and to substitute a number. This was done to insure complete anonymity and to obtain complete frankness on the part of the respondents.

Scores

From these instruments ten scores were obtained for use in testing the hypotheses of this study. For classification purposes these scores were coded by the writer.

1. PD-1 is the principal's Dogmatism Scale score in school number one.
2. TD-1 is the mean of teachers' scores on the Dogmatism Scale in school number one.
3. TL(I)-1 is the mean teacher's rating of the principal on the LBDQ dimension of Initiating Structure in school number one.
4. TL(C)-1 is the mean teacher's rating of the principal on the LBDQ dimension of Consideration in school number one.
5. SL(I)-1 is the superintendent's rating of the principal in school number one on the dimension of Initiating Structure.
6. SL(C)-1 is the superintendent's rating of the principal in school number one on the dimension of Consideration.
7. P-TL(I)-1 is the principal's judgment of his teachers' perceptions of his behavior on the dimension of Initiating Structure in school number one.
8. P-TL(C)-1 is the principal's judgment of his teachers' perceptions of his behavior on the dimension of Consideration in school number one.
9. P-SL(I)-1 is the principal's judgment of his superintendent's perception of his behavior on

the dimension of Initiating Structure in school number one.

10. P-SL(C)-1 is the principal's judgment of his superintendent's perception of his behavior on the dimension of Consideration in school number one.

Statistical Testing of the Hypotheses

Hypotheses Numbers One and Two. These guiding hypotheses derived their support or rejection from the statistical testing of hypotheses three through six. These hypotheses are based on postulated differences in perception between open-minded and closed-minded principals. It was necessary then to divide the total sample of principals into open-minded and closed-minded principals. Since open and closed belief systems are ideal types, convenient for purposes of analysis, no people exist who are completely open or completely closed. Normative data provided by Rokeach[20] were used by Erickson[21] to identify principals as high or low on the Dogmatism Scale. In contrast to Rokeach's method of selecting the lowest one-fourth of the scores as designating open-mindedness, Erickson used scores of 140 or less to identify a person with an open belief system. Between twenty-five and thirty per cent of the respondents' scores, principals and teachers, fell into this category. Similarly, scores of 180 or more identified closed-mindedness, which included slightly less than twenty per cent of the respondents. The rest of the scores were in a middle range tending either toward an open belief system or a closed belief system.[22]

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[20] Rokeach, *op. cit.*, p. 90.

[21] Erickson, *op. cit.*, pp. 67-68.

Since the distribution of Dogmatism Scale scores was not known in the present study until data were gathered, the following method of dividing principals' scores on the dogmatism variable was employed. The total sample of twenty-four principals was divided into two equal parts with the lower one-half of the scores representing the open-minded and the higher one-half representing the closed-minded.

Hypothesis Number Three. This hypothesis was concerned with the differences between the principal's estimate of his teachers' description and the teachers' actual description on the dimension of Initiating Structure, P-TL(I) minus TL(I).

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[22] Ibid., p. 68.

OPEN MINDED			CLOSED MINDED		
Dogmatism Rank	Difference Score (X)	Difference Rank	Dogmatism Rank	Difference Score (Y)	Difference Rank
1			13		
2			14		
3			15		
4			16		
5			17		
6			18		
7			19		
8			20		
9			21		
10			22		
11			23		
12			24		
		$R_1=$			$R_2=$
		$N_1=12$			$N_2=12$

FIGURE 2

MODEL FOR STATISTICAL ANALYSES OF HYPOTHESES THREE THROUGH SIX

The null hypothesis was that the median difference score of closed-minded principals (Y median) was not greater than the median difference score of open-minded principals (X median). The Mann-Whitney Sum of Ranks Test was recommended by Walker and Lev[23] to test the hypothesis that, using the above model, the N_1 values of X and the N_2 values of Y are samples from a common population. In terms of this study, the hypothesis is that the accuracy of estimates of teachers' descriptions (difference scores) by open-minded principals (X median) and closed-minded principals (Y median) were not different. When N_1 and N_2 are 8 or larger, the statistic

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[23] Helen M. Walker and Joseph Lev, *Statistical Inference* (New York: Holt, Rinehart and Winston, Inc., 1953), p. 434.

$$Z = \frac{2R_i - N_i(N+1)}{\sqrt{\frac{N_1 N_2 (N+1)}{3}}}$$

has a distribution which is approximately unit normal and thus the level of significance can be obtained from normal curve tables.[24]

Hypothesis Number Four. This hypothesis was concerned with differences between principal and superintendent. The same statistical procedures were used. In this case the difference P-SL(I) minus SL(I) was used.

Hypothesis Number Five. This hypothesis followed the same procedure using the difference P-TL(C) minus TL(C).

Hypothesis Number Six. In this hypothesis the difference P-SL(C) minus SL(C) was used.

Hypothesis Number Seven. This hypothesis stated that there were higher TL(I) scores in schools where both the principal and the teachers were below the median on the Dogmatism Scale. The Kruskal-Wallis Test for comparing k (any number) samples was used.[25] For this analysis the data were distributed among groups which were numbered as they were in Figure 1. In contrast to hypotheses three through six, the data used here were actual scores rather than differences. A model for clarification follows.

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[24] Ibid.

[25] Ibid., p. 437.

GROUP I (P_H T_H)		GROUP II (P_H T_L)		GROUP III (P_L T_H)		GROUP IV (P_L T_L)	
Score	Rank	Score	Rank	Score	Rank	Score	Rank
___	___	___	___	___	___	___	___
___	___	___	___	___	___	___	___
R_i=	___		___		___		___
N_i=	___		___		___		___

FIGURE 3

MODEL FOR STATISTICAL ANALYSES OF HYPOTHESES SEVEN AND EIGHT

The statistic

$$H = \frac{12}{N(N+1)} \sum_{1}^{k} \frac{R_i^2}{N_i} - 3(N+1)$$

is distributed approximately as chi-square with k-1 degrees of freedom. For support of this hypothesis a distribution of high rankings must occur in Group IV. The null hypothesis which states that these four samples come from identical populations of TL(I) scores may be rejected if a large value of H is obtained.

Hypothesis Number Eight. This hypothesis stated that there were higher TL(C) scores in schools where both the principal and the teachers were below the median on the Dogmatism Scale. Using TL(C) scores, the same procedures were used as in hypothesis number seven.

CHAPTER IV

ANALYSIS AND RESULTS

Introduction

This chapter begins with a description of the computer procedures used in this study. The major findings from the statistical testing of hypotheses three through eight are presented. Then the relationship between the biographical characteristics of age and sex and the personality variable of dogmatism is examined. Further analysis is done for the purpose of comparing the findings of this study with those of the Evenson study. Finally, a discussion and summary of the findings of this study are included.

Computer Procedures

The procedure of tabulating information from questionnaires can be one that occupies an inordinate amount of time. Also, the storage of data in this form is not very permanent and does not permit an immediate survey of the data. For these reasons the responses from questionnaires used in this study were punched on cards and verified. Since there were eighty usable columns on a data card, each questionnaire was punched on a separate card in the following manner. The first ten columns were used as an identification number for the respondent. The next forty columns were his responses on the Dogmatism Scale. Following this were the fifteen responses on the Initiating Structure dimension and the fifteen responses on the Consideration dimension.

For the purposes of this study a computer program in FORTRAN language was designed to do simple tabulation of data from the cards described above which were used as input. This program[1] had the advantage of preparing results punched on cards which could then be used as input for any fundamental statistical library programs which were available to the researcher. In this study the results were printed in a format which included an identification number for the respondent, his Dogmatism Scale score, his rating of the principal on Initiating Structure and his rating of the principal on Consideration.

General Sample Characteristics

The principals investigated in this study had Dogmatism Scale scores ranging from 74 to 196 with a mean of 130.7. Superintendents ranged from 99 to 162 with a mean of 137.58. Teachers' means ranged from 134.7 in one school to 161.79 in another. The grand mean for all teachers was 145.67. Table I presents the scores which were described in Chapter III and are used in the statistical analyses that will follow.

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[1] This program can be found in Appendix D.

TABLE I

SCORES TO BE USED IN THE STATISTICAL ANALYSES OF DATA

School	PD	TD	TL		SL		P-TL		P-SL	
			(I)	(C)	(I)	(C)	(I)	(C)	(I)	(C)
1	127	152.56	41.55	40.85	37	40	46	39	46	43
2	130	135.86	31.73	37.68	31	37	38	35	37	43
3	196	151.26	40.63	44.32	46	53	36	50	24	26
4	151	145.72	31.28	37.06	47	53	38	35	37	34
5	129	137.1	38.8	37.55	43	41	41	42	46	48
6	132	134.7	44.81	47.62	37	40	36	34	41	35
7	74	142.37	36.05	51.21	51	55	25	44	29	46
8	121	135.98	37.28	36.07	37	34	35	35	33	37
9	151	161.79	36.21	43.21	48	53	38	44	37	42
12	126	146.2	32.95	42.15	46	51	42	49	42	50
13	119	148.5	49.65	53.35	49	43	41	40	35	38
14	89	145.9	33.4	38.15	39	37	55	56	55	53
15	149	159.46	38.23	42.153	9	32	41	45	41	46
16	156	153.43	33.74	37.61	33	41	27	39	24	38
17	139	150.79	40.67	46.21	42	45	46	38	48	45
18	143	155.09	42.73	47.59	39	45	37	48	40	48
19	123	142.84	44.04	48.04	43	48	43	45	41	48
22	148	144.23	42.31	47.81	39	43	34	40	29	35
23	120	148.19	43.81	50.38	48	51	45	47	48	51
24	127	143.14	45.97	47.	47	52	48	42	46	43
25	111	144.	46.6	53.67	45	50	41	49	41	45
26	151	148.33	39.85	40.56	43	47	47	41	48	41
27	89	155.95	40.47	39.95	38	33	37	32	40	30
28	136	154.	42.83	48.04	42	44	41	38	42	37

Major Findings

In order to empirically test the two guiding hypotheses of this study, four hypotheses were developed to examine the principal's accuracy in estimating perceptions of his leader behavior by others. Two hypotheses were concerned with the superintendent's perceptions and two with the teachers' perceptions. These were further divided into the two dimensions of Initiating Structure and Consideration. Then two hypotheses were developed which were concerned with the atmosphere in those schools where there is teacher-principal similarity on the dogmatism variable. The results of the statistical testing of these hypotheses follow.

> Hypothesis Number Three. Open-minded principals more accurately estimate their teachers' descriptions of their leader behavior on the dimension of Initiating Structure than do closed-minded principals.

For this hypothesis the data were arranged into Table II for the computation of the Mann-Whitney Sum of Ranks test.

TABLE II

THE PROCEDURES USED FOR THE STATISTICAL TESTING OF HYPOTHESIS THREE

OPEN MINDED			CLOSED MINDED		
School	Principal's Dogmatism Rank	Difference Rank of P-TL(I) Minus TL(I)	School	Principal's Dogmatism Rank	Difference Rank of P-TL(I) Minus TL(I)
7	1	24	2	13	15
14	2.5	23	6	14	21
27	2.5	9	28	15	4
25	4	13	17	16	12
13	5	20	18	17	14
23	6	2	22	18	19
8	7	7	15	19	8
19	8	1	4	21	16
12	9	22	9	21	3
1	10.5	10	26	21	18
24	10.5	5	16	23	17
5	12	6	3	24	11
	R_1=142			R_2=158	
	N_1= 12			N_2= 12	

Using the above data, the Mann-Whitney test yielded a "z" value of .46 which, when referred to a normal curve table, indicated a probability of .32. This probability does not approach the significance level of .05. Therefore, hypothesis number three is not supported. It is indeed possible that these two samples of difference scores are samples from the same population. Open-minded principals of this sample are not significantly different from closed-minded principals in their accuracy of estimating their teachers' perceptions of their leader behavior on the dimension of Initiating Structure.

> Hypothesis Number Four. Open-minded principals more accurately estimate their superintendents' descriptions of their leader behavior on the dimension of Initiating Structure than do closed-minded principals.

The Mann-Whitney test was also used for this hypothesis. Therefore, the data were arranged into Table III.

TABLE III

THE PROCEDURES USED FOR THE STATISTICAL TESTING OF HYPOTHESIS FOUR

OPEN MINDED			CLOSED MINDED		
School	Principal's Dogmatism Rank	Difference Rank of P-SL(I) Minus SL(I)	School	Principal's Dogmatism Rank	Difference Rank of P-SL(I) Minus SL(I)
7	1	22.5	2	13	13.5
14	2.5	21	6	14	9.5
27	2.5	5.5	28	15	1.5
25	4	9.5	17	16	13.5
13	5	20	18	17	3.5
23	6	1.5	22	18	17.5
8	7	9.5	15	19	24
19	8	5.5	4	21	17.5
12	9	9.5	9	21	19
1	10.5	15.5	26	21	12
24	10.5	3.5	16	23	15.5
5	12	7	3	24	22.5
	R_1=130.5			R_2=169.5	
	N_1= 12			N_2= 12	

The "z" value yielded by the sum of ranks test for this hypothesis was 1.13. The probability of attaining this value was .13. Although the difference between these two samples was much greater than the previous one, it did not reach the .05 level of significance. The open-minded principals of this sample did not differ significantly from the closed-minded principals in their accuracy of estimating their superintendents' perceptions of their leader behavior. However, it should be noted that there is a much stronger relationship here than in the previous hypothesis. Also, evidence for both hypotheses three and four occurred in the predicted direction.

> Hypothesis Number Five. Open-minded principals more accurately estimate their teachers' descriptions of their leader behavior on the dimension of Consideration than do closed-minded principals.

In this hypothesis the rankings of the P-TL(C) minus TL(C) difference scores were used as in Table IV which follows.

TABLE IV

THE PROCEDURES USED FOR THE STATISTICAL TESTING OF HYPOTHESIS FIVE

OPEN MINDED			CLOSED MINDED		
School	Principal's Dogmatism Rank	Difference Rank of P-TL(C) Minus TL(C)	School	Principal's Dogmatism Rank	Difference Rank of P-TL(C) Minus TL(C)
7	1	17	2	13	8
14	2.5	24	6	14	22
27	2.5	19	28	15	21
25	4	13	17	16	20
13	5	23	18	17	1
23	6	11	22	18	18
8	7	4	15	19	9
19	8	10	4	21	7
12	9	16	9	21	3
1	10.5	6	26	21	2
24	10.5	14	16	23	5
5	12	12	3	24	15
	R_1=169			R_2=131	
	N_1= 12			N_2= 12	

The obtained "z" value of -1.097 indicated that the larger differences occurred in opposite direction from the prediction. The probability of .14 did not reach the significance level of .05. Thus, for this sample, the closed-minded principals were more accurate, but not significantly so, in their estimates of their teachers' perceptions of their leader behavior on the dimension of Consideration.

> *Hypothesis Number Six.* Open-minded principals more accurately *estimate* their superintendents' descriptions of their leader behavior on the dimension of Consideration than do closed-minded principals.

The rankings of the difference scores, P-SL(C) minus SL(C), were employed as in Table V.

TABLE V

THE PROCEDURES USED FOR THE STATISTICAL TESTING OF HYPOTHESIS SIX

OPEN MINDED			CLOSED MINDED		
School	Principal's Dogmatism Rank	Difference Rank of P-SL(C) Minus SL(C)	School	Principal's Dogmatism Rank	Difference Rank of P-SL(C) Minus SL(C)
7	1	19.5	2	13	13.5
14	2.5	23	6	14	11
27	2.5	7	28	15	16
25	4	11	17	16	2
13	5	11	18	17	7
23	6	2	22	18	18
8	7	7	15	19	22
19	8	2	4	21	16
12	9	4	9	21	21
1	10.5	7	26	21	13.5
24	10.5	19.5	16	23	7
5	12	16	3	24	24
	R_1=127			R_2=171	
	N_1= 12			N_2= 12	

Using the above data, a "z" value of 1.5 was obtained. This value has a tabled probability of .0668 which is very strong but does not reach the .05 significance level. This is an indication that, if the person were willing to accept a seven per cent possibility of error, it could be stated that open-minded principals are more accurate in their estimation of their superintendents' perceptions of their leader behavior on the dimension of Consideration than are closed-minded principals.

> Hypothesis Number Seven. In schools where the principal and teachers both score low on the Dogmatism Scale (open-minded), the principal will be described by the teachers as scoring significantly higher on the dimension of Initiating Structure than in schools where either the principal or the teachers, or both, score high on the Dogmatism Scale (closed-minded).

For this hypothesis the data were arranged into four groups according to principal's and teachers' scores on the Dogmatism Scale. Group I contains those schools with both the principal and the teachers above their respective medians on the Dogmatism Scale. Group II contains those schools with the principal above and the teachers below the median. Group III is those schools with principal low and teachers high. Group IV is those schools with both the principal and teachers low. The total sample of four groups was then ranked using TL(I) scores. A summary of these data is presented in Table VI.

TABLE VI

AN ILLUSTRATION OF THE PROCEDURES USED IN THE STATISTICAL TESTING OF HYPOTHESIS SEVEN

Group I $(P_H\ T_H)$		Group II $(P_H\ T_L)$		Group III $(P_L\ T_H)$		Group IV $(P_L\ T_L)$	
School Number	TL(I) Rank	School Number	TL(I) Rank	School Number	TL(I) Rank	School Number	TL(I) Rank
3	13	2	2	1	15	5	10
9	7	4	1	13	24	7	6
15	9	6	21	23	19	8	8
16	5	22	16	27	12	12	3
17	14					14	4
18	17					19	20
26	11					24	22
28	18					25	23
R_i=	94		40		70		96

Using the Kruskal-Wallis test for the analysis of variance with ranked data, an "H" value of 2.67 was obtained. When referred to a chi-square table with three degrees of freedom this value has a probability of .45 which is not significant. It can be concluded that there are no significant differences in TL(I) ratings between schools where both the principal and the teachers score low on the Dogmatism Scale and all other schools.

> *Hypothesis Number Eight.* In schools where the principal and teachers both score low on the Dogmatism Scale (open-minded), the principal will be described by the teachers as scoring significantly higher on the dimension of Consideration than in schools where either the principal or the teachers, or both, score high on the Dogmatism Scale (closed-minded).

The groupings for this hypothesis were the same as those for hypothesis seven. The total sample was ranked using TL(C) scores as presented in Table VII which follows.

TABLE VII

AN ILLUSTRATION OF THE PROCEDURES USED IN THE STATISTICAL TESTING OF HYPOTHESIS EIGHT

Group I (P_H T_H)		Group II (P_H T_L)		Group III (P_L T_H)		Group IV (P_L T_L)	
School Number	TL(C) Rank	School Number	TL(C) Rank	School Number	TL(C) Rank	School Number	TL(C) Rank
3	13	2	5	1	9	5	3
9	12	4	2	13	23	7	22
15	11	6	17	23	21	8	1
16	4	22	18	27	7	12	10
17	14					14	6
18	16					19	19
26	8					24	15
28	20					25	24
R_i=	98		42		60		100

Using the above data an "H" value of .83 was obtained. This chi-square value, with three degrees of freedom, indicates a probability of .85. Thus, there is no significant difference in the variance between these groups. There are no significant differences in TL(C) scores between schools where both the principal and the teachers score low on the Dogmatism Scale and all other schools.

Special Considerations of Dogmatism

Erickson[2] noted that there was a tendency for dogmatism to be related to age. Accordingly this researcher analyzed data from teachers' questionnaires for the relationship between age of the respondents and their scores on the Dogmatism Scale. A chi-square contingency table test of independence was used in which the respondents were divided into groups of low, medium, and high on the dependent variable, dogmatism, and into age groups of 29 and below, 30 to 39, 40 to 49, and 50 and above. Table VIII shows the number of respondents in each category.

TABLE VIII

THE NUMBER OF TEACHER-RESPONDENTS CLASSIFIED ACCORDING TO DOGMATISM AND AGE

	AGE			
	-29	30-39	40-49	50+
High Dogmatism (180+)	17 −[a]	6 −	12 +	22 +
Medium Dogmatism (140-179)	103 +[b]	56 −	48 +	73 +
Low Dogmatism (-139)	92 +	75 +	35 −	41 −

$\chi^2 = 25.13$, $p < .001$

[a] "−" indicates an observed frequency less than the expected frequency.

[b] "+" indicates an observed frequency greater than the expected frequency.

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[2] Eldridge Albert Erickson, "A Study of the Relationship Between Personality Structure and Perception," (unpublished Ed.D. Thesis, Colorado State College, 1962), pp. 71-73.

The chi-square test indicated that these groupings were independent. An examination of the cells in Table VIII showed that an observed frequency greater than the expected frequency occurred in cells that were high in both dogmatism and age or low in both dogmatism and age. This analysis supported Erickson's findings that dogmatism increases with age.

The relationship of sex to dogmatism was also investigated by Erickson. Findings indicated that "sex of the respondent did not determine whether the person would have an open or closed belief system."[3] In the present study a "t" test was employed to investigate the differences between means of the male and female respondents respectively. Table IX presents this data.

TABLE IX

RESULTS OF THE t-TEST FOR SIGNIFICANCE
OF DIFFERENCES BETWEEN MALE AND FEMALE
TEACHERS ON DOGMATISM

Sex	Mean	$S_{\bar{m}}$	N	df
Male	144.44	1.51	254	253
Female	146.90	1.53	350	349

$t=1.145, \quad p > .10 < .15$

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[3] *Ibid.*, p. 70.

The obtained "t" value of 1.145 did not approach the significance level of .05. Thus these results support Erickson's findings with regard to dogmatism and sex. There is no significant difference between men and women on dogmatism.

Differences Between Elementary and Secondary Principals

Elementary and secondary principals have been found to differ in their perceptions of the way their superintendent and their teachers viewed their behavior.[4] This finding prompted the writer to investigate possible differences between the elementary and secondary principals of this study. The "t" test for the significance of difference between means was employed. The principals were investigated for differences in dogmatism, in self-ratings on the leader behavior dimensions, in their perceptions of how their superintendents and teachers viewed their behavior, and in the actual perceptions of them by their superintendents. Table X presents the results of this part of the study.

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[4] Robert E. Sweitzer et al., Role Expectations and Perceptions of School Principals (Washington, D. C.: U. S. Office of Education, January, 1963), pp. 369-70.

TABLE X

DIFFERENCES BETWEEN ELEMENTARY AND SECONDARY PRINCIPALS ON DOGMATISM, SELF-PERCEPTIONS, PERCEPTIONS OF HOW OTHERS VIEW THEIR LEADER BEHAVIOR, AND THE ACTUAL PERCEPTIONS OF THEM BY THEIR SUPERINTENDENTS

Difference	Mean	S_m	N	df	t^a	
Dogmatism					.67	
Elem.	127.25	8.96	12	11		
Sec.	134.17	5.27	12	11		
Self Perceptions						
Initiating Structure					.03	
Elem.	43.	1.82	12	11		
Sec.	42.92	1.94	12	11		
Consideration					1.40	$p < .10$
Elem.	47.25	1.10	12	11		
Sec.	44.58	1.56	12	11		
P-TL(I)					.06	
Elem.	40.00	1.66	12	11		
Sec.	39.83	2.14	12	11		
P-TL(C)					.78	
Elem.	42.92	1.46	12	11		
Sec.	41.	1.97	12	11		
P-SL(I)					.41	
Elem.	39.67	2.15	12	11		
Sec.	39.5	2.42	12	11		
SL(I)					.45	
Elem.	41.58	3.21	12	11		
Sec.	40.	1.50	12	11		
SL(C)					.58	
Elem.	45.33	2.23	12	11		
Sec.	43.67	1.80	12	11		

a None of the "t" values reach the .05 significance level.

An examination of Table X indicated that none of the differences between elementary and secondary principals were significant. These principals did not differ significantly in dogmatism, self-perceptions, their perceptions of the way their teachers and superintendents viewed their behavior or in the actual perceptions of them by their superintendents. These findings do not support those of Sweitzer.

Comparison with the Evenson Findings

In a study using the LBDQ with secondary principals, Evenson[5] found a significant correlation between staff and superintendent perceptions of the principal on the dimension of Initiating Structure. None of the other correlations were significant. The data of the present study were analyzed for correlations between self-perceptions, superintendent perceptions, and teacher perceptions. Pearson product-moment coefficients of correlation were computed. Table XI presents the results of this analysis along with the Evenson results. It should be noted that no direct comparison of each correlation is possible since the Evenson sample contained 40 secondary principals and the present study contained 12 elementary and 12 secondary principals.

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[5] Warren L. Evenson, "The Leadership Behavior of High School Principals: Perceptions and Expectations of Superintendents, Principals, and Staff Members" (unpublished Ph.D. Thesis, Department of Education, University of Chicago, 1958), p. 53.

TABLE XI

A COMPARISON OF SELF-SUPERINTENDENT PERCEPTIONS, STAFF-SUPERINTENDENT PERCEPTIONS, SELF-STAFF PERCEPTIONS IN THE EVENSON AND THE PRESENT STUDY

Dimension	Respondents	Pearson r's Evenson Sample	 Present Sample
Consideration	Self-Supt.	.25	.36[b]
Consideration	Self-Staff	.05	.04
Consideration	Staff-Supt.	.22	.46[c]
Initiating Structure	Self-Supt.	.30	.04
Initiating Structure	Self-Staff	.06	.13
Initiating Structure	Staff-Supt.	.58[a]	.20

a $p = .01$.

b $p < .05$.

c $p < .025$.

In this study significant relationships were found between the self-perceptions of the principals and perceptions by their superintendents on the Consideration dimension and between staff perceptions and superintendent perceptions on the Consideration dimension. These findings differ from those of Evenson.

Discussion

The fairly pronounced but not significant support of hypotheses four and six seems to indicate that the dogmatism variable may be related to the accuracy with which principals can estimate how their leader behavior is perceived by their superintendents.[6] This accuracy was determined by obtaining an absolute difference score between the superintendent's perception and the principal's estimate of this perception. The same method was used for comparing the principal's estimate with the teachers' perception of him. The teachers' perception score was the mean value of the total faculty under the principal. Admittedly this estimation is a much more difficult task for the principal than making an estimate of just one person's perception of him as was the case with the superintendent's perception. This may account for the pattern in this study which indicates some support for those hypotheses dealing with the superintendent.

Since the principal had to estimate the perception of the group of teachers under him, it was felt that the number of teachers might be related to his accuracy of perception. The schools of this study were divided into the upper and lower halves according to size, which is indicated by number of teachers, and according to the difference scores between principal's estimate and teachers' perception on the two dimensions. A chi-square double-contingency test, corrected for continuity, was used to analyze the data presented in Table XII.

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[6] An obvious explanation of the confounding factors in this study may have been that the instruments used were not reliable in their application to the present study. Therefore, reliability coefficients using the split-half technique were obtained for the principals of this sample. For the Dogmatism Scale, the correlation corrected by the Spearman-Brown prophecy formula was .88. For the dimension of Initiating Structure on the LBDQ, the corrected correlation was .81; for Consideration the corrected correlation was .90.

TABLE XII

THE NUMBER OF SCHOOLS IN THIS STUDY CLASSIFIED ACCORDING TO SIZE AND DIFFERENCE SCORES ON INITIATING STRUCTURE AND CONSIDERATION

Initiating Structure P-TL(I) Minus TL(I)			Consideration P-TL(C) Minus TL(C)		
Difference Score			Difference Score		
	Low	High		Low	High
Large Size	5	7	Large Size	6	6
Small Size	7	5	Small Size	6	6

Since both chi-square values were less than one, neither reached the significance level of .05 which, with one degree of freedom, requires a value of 3.8. Therefore, size of school was not related to the principal's accuracy in estimating his teachers' perceptions of his leader behavior.

In the Erickson study measures of similarity on the dogmatism variable were correlated with measures of similarity of perception. The difference score between the superintendent and the principal on the Dogmatism Scale and the difference score on the LBDQ were investigated. Since it was felt that similarity in dogmatism might be a factor influencing the findings of this study, a product-moment correlation between dogmatism difference scores and leader behavior dimension difference scores was computed. This correlation (r=.30) did not reach the value of .344 which is necessary for the .05 significance level. Therefore, as in the Erickson study, similarity in dogmatism was not related to similarity in perception.

One possible explanation of the occurrence of this pattern of accuracy in estimating superintendents' perceptions but not in estimating teachers' perceptions may be the requirement on the one hand to estimate one person's perception and on the other hand to estimate a group's perception. The theoretical discussion by Harvey et al[7] of the nature of concepts appears to have bearing on these findings. A concept, according to Harvey,[8] ". . . is a system of ordering that serves as the mediating linkage between the input side (stimuli) and the output side (response)." The function of concepts for Harvey appears to be much like the function of belief systems for Rokeach. The subject-object tie can differ on a continuum from abstractness to concreteness. The more concrete, the more the structure of this mediating tie is fixed and restricted to, or dependent upon, physical attributes of the activating stimulus.[9] The differences between concreteness and abstractness, which are very similar to the differences between open and closed mindedness, have been closely described by Harvey.

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[7] O. J. Harvey, David E. Hunt and Harold M. Schroder, Conceptual Systems and Personality Organization (New York: John Wiley and Sons, Inc., 1961).

[8] Ibid., p. 1.

[9] Ibid., p. 3.

> Variation in the level of concreteness-abstractness results in differences in "stimulus boundness," the extent to which the receiving and responding individual is restricted to or can go beyond the physical characteristics of the immediately impinging stimuli in organizing his evaluation and experience of a situation. The greater one's abstractness, (1) the greater is his ability to transcend immediacy and to move more into the temporally and spatially remote, (2) and the more capable he is of abstracting relationships from objects of his experience and of organizing them in terms of their interrelatedness. *The greater one's concreteness, on the other hand, the greater the degree of stimulus "oughtness" in dictating his response, with concomitants almost opposite to greater abstractness.* Furthermore, whereas the more abstractly functioning individual tends toward differentiating his world into many facets and integrating them holistically but interdependently, the more concretistically functioning person is more likely to make only few differentiations of his environment and to leave these cognitive "elements" in a greater state of isolation. *Thus although both the more concretely and more abstractly functioning persons might display holistic cognitive structures and responses, the underlying basis of the two would be vastly different, the former resting on an undifferentiated totality whereas the latter is underlaid by a differentiated and integrated holism.*[10]

An explanation of the results of this study could be that the open-minded (or abstract) principals who were able to differentiate their own perceptions saw their teachers as a group holding many different perceptions of the principal's behavior and therefore could not accurately estimate teacher perceptions as a group. In informal discussions after the administration of the instruments of this study, many of the principals indicated that certain items, which happened to be on the dimension of Consideration, described "desirable" behavior while others, which happened to be on the dimension of Initiating Structure, described behavior that was "undesirable." The attachment of value to the one dimension may explain the demonstrated accuracy of the closed-minded (or concrete) principals in estimating their teachers' perceptions of their Consideration behavior. In other words, the concrete principals could have felt that they "ought" to exhibit more Consideration behavior toward their teachers. Therefore, they were more sensitive regarding their behavior in this area and more accurate in their estimates on this dimension. At the same time they were not able to accurately estimate the teachers' perceptions of their Initiating Structure behavior. They were less sensitive to behavior on this "undesirable" dimension.

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[10] *Ibid.*, p. 25. Italics added.

It therefore seems plausible that Harvey et al offer a theoretical explanation for these rather conflicting results. The open-minded principals who were able to differentiate their perceptions and to organize them into an integrated whole were thus able to more accurately estimate the perceptions of individuals (superintendents) of their leader behavior on both dimensions. They were not able to provide one single estimation of a whole group's perception because of this differentiation factor. At the same time the closed-minded principals, who do not differentiate, were able to accurately estimate their teachers' perceptions on the Consideration dimension which was more desirable than Initiating Structure.

Summary

This chapter first dealt with the major findings of this study. Open mindedness shows a mild tendency to be related to the principal's ability to accurately estimate his superintendent's perceptions of his leader behavior. The statistical testing of hypothesis five, which dealt with principals' estimates of teachers' perceptions on the dimension of Consideration, has indicated a tendency, though not significant, opposite from the predicted direction. The statistical testing of hypotheses three, seven and eight yielded results which rejected the hypotheses.

Additional analysis was done in order to ascertain some possible factors which might have confounded the results of this study. No relationship was found between number of teachers and principal's accuracy of perception. In addition, principal-superintendent similarity on dogmatism was not related to similarity of perception. Since these factors were not present in this study, they were not confounding factors.

In light of this evidence, there is a slight tendency for dogmatism to be related inversely to the accuracy of the principal's estimate of his superintendent's perception, but not to be related to his estimate of his teachers' perceptions. Also, the occurrence of low dogmatism scores on the part of both principal and teachers does not seem to affect the actual ratings of the principal by the teachers on the LBDQ. A theoretical explanation of the rather conflicting results of this study was discussed. The implications of these findings are presented in the following chapter.

CHAPTER V

IMPLICATIONS

Basic Assumption of This Study

This research, although intended to be descriptive in nature, does contain certain evaluative assumptions which must be expressed. The major assumption is that the principal, to be effective, must be able to make accurate estimations of the perceptions that others have of his behavior. He is bound by the "phenomenological box" discussed by Halpin and Croft.[1] How he really behaves is less important than how his teachers and his superintendent, among others, perceive that he behaves. The fact that perceptions by these reference groups are generally different from the self-perceptions of the principal is attested to by Brottman.[2] It has been assumed that accuracy in estimating these perceptions is useful as a basis for any future action on the principal's part.

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[1] Andrew W. Halpin and Don B. Croft, The Organizational Climate of Schools (Chicago: Midwest Administration Center, The University of Chicago, 1963), p. 9.

[2] Marvin A. Brottman, "The Administrative Process and Elementary School Principals," Administrator's Notebook, XI (8), April, 1963.

Implications for Methodology

The use of the LBDQ in this study has been slightly different from any previous use. In addition to the usual use as a measure of perceptions by teachers and superintendent of the principal's leader behavior, it was used to obtain the principal's estimate of his teachers' and his superintendent's perceptions. Judging from conversations with the principals, this method was very understandable and preferable since it enabled them to compare themselves on each item. Also, the collection of data by the alternative method of having them complete the LBDQ three times (self-perceptions, estimate of teachers' perception, estimate of superintendent's perception) would have occupied an inordinate amount of time. Thus, this method is a useful way of gathering data on estimates of perceptions, and it provides the principal with a ready basis for thinking and comparing his self-perceptions with his estimate of how others perceive him.

Another implication for methodology is related to the usual conventions regarding statistical significance. The .05 and the .01 levels rest on the assumption that the results of the study are to be evaluated from a statistical standpoint. What is more important in the present study is the trend of the results. Although a pattern of perceptual accuracy has been demonstrated through the testing of hypotheses four and six, neither of these reached the .05 level of significance. The .10 level or the .15 level seems to contain much

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consideration should be delayed pending further research on a wider scale, with special emphasis on the relationship between dogmatism and estimations of teachers' perceptions of principals.

Implications for Theory

The several characteristics and uses of systems theory have been listed and discussed by Griffiths.[6] Systems theory is an attempt to develop a general theory which aids the description, explanation and prediction of a wide range of human behavior within organizations. The present study has dealt with the sensitizing concepts of the open-minded leader and the closed-minded leader. Rokeach's conception of the open belief system possesses the same characteristics discussed by Griffiths. The integration of these concepts into a general systems theory would be a significant theoretical accomplishment.

Suggestions for Future Research

Many interesting areas of research have been probed in this study. The dogmatism variable seems to be mildly related to accuracy of perceptions but the pattern of this accuracy is not yet clear. Open-minded principals demonstrated more accuracy when estimating superintendents' perceptions. But the findings concerning estimates of teachers' perceptions did not follow any pattern and tended to be in the opposite direction in hypothesis five. Since these findings can be explained theoretically, they should be further investigated. A study on a much greater scale than this exploratory investigation would perhaps shed some light on these findings. This study should focus on principals' estimates of individual teachers' perceptions rather than on group perceptions.

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[6] Daniel E. Griffiths, "The Nature and Meaning of Theory," in Behavioral Science and Educational Administration (Chicago: The National Society for the Study of Education, Yearbook LXIII, Part II, 1964), Chapter V, pp. 116-18.

Some other suggestions for research are the following.

1. Are open-minded principals different from closed-minded principals on the performance and personal variables identified by Hemphill *et al*?[7]

2. Is open-mindedness related to accuracy in estimating the perceptions of the various sub-publics of the school community?

3. Do open-minded principals exhibit a distinct leadership style?[8]

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[7] John K. Hemphill, Daniel E. Griffiths and Norman Frederiksen et al, *Administrative Performance and Personality* (New York: Teachers College Bureau of Publications, 1962).

[8] Leadership styles have been found to be related to principals' perceptions of professionalism in teachers in Donald J. Willower, "Leadership Styles and Leaders' Perceptions of Subordinates," *Journal of Educational Sociology*, XXXIV (2), October, 1960, pp. 58-64.

4. Is open-mindedness related to authenticity in behavior?[9]

5. What type of organizational climate does an open-minded principal establish and maintain in his school?[10]

6. Is open-mindedness related to the ability to bring about innovation and reduce resistance to change?

7. Are there situational effects which cause changes in dogmatism on the part of principals or teachers?

8. Do the findings of this study apply to leaders in other types of organizations?

9. Is the selection of the principal of a school related to similarity of the principal and the superintendent on dogmatism?

10. Is there a difference in the type of cue and non-verbal style of communication between open-minded and closed-minded principals?

11. Is open-mindedness related to reference group orientation?

These questions are suggestions for research which could lead to a greater understanding of the social milieu in which the administrator must function.

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[9] See Halpin and Croft, *op. cit.*

[10] *Ibid.*

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APPENDIX A

SUPERINTENDENT'S QUESTIONNAIRE

TEACHER-PRINCIPAL-SUPERINTENDENT QUESTIONNAIRE

This questionnaire is developed to assess relationships between personal opinions and perceptions of school principals. There are two parts (FORM O and FORM P) to this questionnaire, and the directions and answering keys are different for each part. Before you answer any item in either part, be sure that you have read carefully the directions for that part. FORM O directions are on page 2, and FORM P directions are on page 5. Since it is important that every item is answered, a good procedure is to answer each item directly after you read it.

Objectivity is important in this research venture. Please be HONEST in responding to these items. All of your answers will be held in strictest confidence. They will be seen by NOBODY other than this researcher. The scoring, the analysis, and the report of the findings will be done by this researcher. Anonymity will be maintained throughout all these stages.

Now, fill in the information requested below. This information will be used ONLY for coding purposes during the analytic stage of this research.

BIOGRAPHICAL INFORMATION

Number____________________ Sex: M_____ F_____

Date of Birth:____________________
Month - Day - Year

Number of years as a teacher (include this year):__________

Number of years as an administrator (include this year):__________

Number of years employed in this school building (include this year):__________

Thank you very much for your cooperation. Please go on to page 2.

FORM O

INSTRUCTIONS:

The following is a study of what the general public thinks and feels about a number of important social and personal questions. The best answer to each statement below is your personal opinion. We have tried to cover many different and opposing points of view; you may find yourself agreeing strongly with some of the statements, disagreeing just as strongly with others, and perhaps uncertain about others. Whether you agree or disagree with any statement, you can be sure that many people feel the same as you do.

Mark each statement in the left margin according to how much you agree or disagree with it. Please mark every one. Write +1, +2, +3, or -1, -2, or -3, depending on how you feel in each case.

+1: I AGREE A LITTLE
+2: I AGREE ON THE WHOLE
+3: I AGREE VERY MUCH

-1: I DISAGREE A LITTLE
-2: I DISAGREE ON THE WHOLE
-3: I DISAGREE VERY MUCH

_____ 1. The United States and Russia have just about nothing in common.

_____ 2. The highest form of government is a democracy and the highest form of democracy is a government run by those who are most intelligent.

_____ 3. Even though freedom of speech for all groups is a worthwhile goal, it is unfortunately necessary to restrict the freedom of certain political groups.

_____ 4. It is only natural that a person would have a much better acquaintance with ideas he believes in than with ideas he opposes.

_____ 5. Man on his own is a helpless and miserable creature.

_____ 6. Fundamentally, the world we live in is a pretty lonesome place.

_____ 7. Most people just don't give a "damn" for others.

_____ 8. I'd like it if I could find someone who would tell me how to solve my personal problems.

_____ 9. It is only natural for a person to be rather fearful of the future.

_____10. There is so much to be done and so little time to do it in.

+1: I AGREE A LITTLE
+2: I AGREE ON THE WHOLE
+3: I AGREE VERY MUCH

-1: I DISAGREE A LITTLE
-2: I DISAGREE ON THE WHOLE
-3: I DISAGREE VERY MUCH

_____ 11. Once I get woundup in a heated discussion, I just can't stop.

_____ 12. In a discussion I often find it necessary to repeat myself several times to make sure I am being understood.

_____ 13. In a heated discussion I generally become so absorbed in what I am going to say that I forget to listen to what others are saying.

_____ 14. It is better to be a dead hero than to be a live coward.

_____ 15. While I don't like to admit this even to myself, my secret ambition is to become a great man like Einstein, or Beethoven, or Shakespeare.

_____ 16. The main thing in life is for a person to want to do something important.

_____ 17. If given the chance, I would do something of great benefit to the world.

_____ 18. In the history of mankind there have probably been just a handful of really great thinkers.

_____ 19. There are a number of people I have come to hate because of the things they stand for.

_____ 20. A man who does not believe in some great cause has not really lived.

_____ 21. It is only when a person devotes himself to an ideal or cause that life becomes meaningful.

_____ 22. Of all the different philosophies which exist in this world, there is probably only one which is correct.

_____ 23. A person who gets enthusiastic about too many causes is likely to be a pretty "wishy-washy" sort of person.

_____ 24. To compromise with our political opponents is dangerous because it usually leads to the betrayal of our own side.

_____ 25. When it comes to differences of opinion in religion, we must be careful not to compromise with those who believe differently from the way we do.

+1: I AGREE A LITTLE
+2: I AGREE ON THE WHOLE
+3: I AGREE VERY MUCH

-1: I DISAGREE A LITTLE
-2: I DISAGREE ON THE WHOLE
-3: I DISAGREE VERY MUCH

_____ 26. In times like these, a person must be pretty selfish if he considers primarily his own happiness.

_____ 27. The worst crime a person could commit is to attack publicly the people who believe in the same thing he does.

_____ 28. In times like these it is often necessary to be more on guard against ideas put out by people or groups in one's own camp than by those in the opposing camp.

_____ 29. A group which tolerates too much difference of opinion among its own members cannot exist for long.

_____ 30. There are two kinds of people in this world: those who are for the truth and those who are against the truth.

_____ 31. My blood boils whenever a person stubbornly refuses to admit he's wrong.

_____ 32. A person who thinks primarily of his own happiness is beneath contempt.

_____ 33. Most of the ideas which get printed nowadays aren't worth the paper they are printed on.

_____ 34. In this complicated world of ours the only way we can know what's going on is to rely on leaders or experts who can be trusted.

_____ 35. It is often desirable to reserve judgement about what's going on until one has had a chance to hear opinions of those one respects.

_____ 36. In the long run the best way to live is to pick friends and associates whose tastes and beliefs are the same as one's own.

_____ 37. The present is all too often full of unhappiness. It is only the future that counts.

_____ 38. If a man is to accomplish his mission in life, it is sometimes necessary to gamble "all or nothing at all."

_____ 39. Unfortunately, a good many people with whom I have discussed important social and moral problems don't really understand what's going on.

_____ 40. Most people just don't know what's good for them.

FORM P

LEADER BEHAVIOR DESCRIPTION QUESTIONNAIRE

This is a questionnaire on which you may describe the behavior of your elementary and your secondary principal. Each item describes a specific kind of behavior without invoking any judgment about the desirability or understandability of that behavior. These questions in no way constitute a "test" of the ability of the person who answers the items. Nor do they involve an evaluation of the effectiveness of the principal's performance. It is possible, however, from this straightforward description of the frequency with which the principal engages in specific kinds of behavior to identify certain leadership styles.

Your answers will NOT be seen by the principals. This questionnaire will be scored and the results analyzed by this researcher. The report of the findings will preserve the anonymity of your answers.

INSTRUCTIONS:

You are asked to indicate how often YOU think certain school principals in your school system actually engage in each kind of behavior.

Indicate your responses to each item by CIRCLING in the appropriate column the LETTER that best represents how often your ELEMENTARY PRINCIPAL and your SECONDARY PRINCIPAL engage in this behavior.

Each letter in each column refers to the frequency with which you think your principals actually engage in the kind of leader behavior described in the item.

A	B	C	D	E
Always	Often	Occasionally	Seldom	Never

SAMPLE

ITEM ON PAGE 6	ANSWER SHEET	
	My ELEMENTARY PRINCIPAL	My SECONDARY PRINCIPAL
1. ...is spokesman of the group.	1. A [✓ B] C D E	A B [✓ C] D E

Now turn the page and indicate your responses on the following pages.

1. ...does personal favors for group members.
2. ...makes his attitudes clear to the group.
3. ...does little things to make it pleasant to be a member of the group.
4. ...tries out his new ideas with the group.
5. ...is easy to understand.
6. ...rules with an iron hand.
7. ...finds time to listen to group members.
8. ...criticizes poor work.
9. ...speaks in a manner not to be questioned.
10. ...keeps to himself.
11. ...looks out for the personal welfare of individual group members.
12. ...assigns his group members to particular tasks.
13. ...refuses to explain his actions.
14. ...works without a plan.
15. ...maintains definite standards of performance.
16. ...acts without consulting the group.
17. ...is slow to accept new ideas.
18. ...emphasizes the meeting of deadlines.
19. ...treats all group members as his equal.
20. ...encourages the use of uniform procedures.
21. ...is willing to make changes.
22. ...makes sure that his part in the organization is understood by group members.
23. ...is friendly and approachable.
24. ...asks that group members follow standard rules and regulations.
25. ...makes group members feel at ease when talking with them.
26. ...lets group members know what is expected of them.
27. ...puts suggestions made by the group into operation.
28. ...sees to it that group members are working up to capacity.
29. ...gets group approval in important matters before going ahead.
30. ...sees to it that the work of group members is coordinated.

ANSWER SHEET

Key:	A	B	C	D	E
	Always	Often	Occasionally	Seldom	Never

	My ELEMENTARY PRINCIPAL	My SECONDARY PRINCIPAL		My ELEMENTARY PRINCIPAL	My SECONDARY PRINCIPAL
1.	A B C D E	A B C D E	16.	A B C D E	A B C D E
2.	A B C D E	A B C D E	17.	A B C D E	A B C D E
3.	A B C D E	A B C D E	18.	A B C D E	A B C D E
4.	A B C D E	A B C D E	19.	A B C D E	A B C D E
5.	A B C D E	A B C D E	20.	A B C D E	A B C D E
6.	A B C D E	A B C D E	21.	A B C D E	A B C D E
7.	A B C D E	A B C D E	22.	A B C D E	A B C D E
8.	A B C D E	A B C D E	23.	A B C D E	A B C D E
9.	A B C D E	A B C D E	24.	A B C D E	A B C D E
10.	A B C D E	A B C D E	25.	A B C D E	A B C D E
11.	A B C D E	A B C D E	26.	A B C D E	A B C D E
12.	A B C D E	A B C D E	27.	A B C D E	A B C D E
13.	A B C D E	A B C D E	28.	A B C D E	A B C D E
14.	A B C D E	A B C D E	29.	A B C D E	A B C D E
15.	A B C D E	A B C D E	30.	A B C D E	A B C D E

APPENDIX B

PRINCIPAL'S QUESTIONNAIRE

TEACHER-PRINCIPAL-SUPERINTENDENT QUESTIONNAIRE

This questionnaire is developed to assess relationships between personal opinions and perceptions of school principals. There are two parts (FORM O and FORM P) to this questionnaire, and the directions and answering keys are different for each part. Before you answer any item in either part, be sure that you have read carefully the directions for that part. FORM O directions are on page 2, and FORM P directions are on page 5. Since it is important that every item is answered, a good procedure is to answer each item directly after you read it.

Objectivity is important in this research venture. Please be HONEST in responding to these items. All of your answers will be held in strictest confidence. They will be seen by NOBODY other than this researcher. The scoring, the analysis, and the report of the findings will be done by this researcher. Anonymity will be maintained throughout all these stages.

Now, fill in the information requested below. This information will be used ONLY for coding purposes during the analytic stage of this research.

BIOGRAPHICAL INFORMATION

Number______________________________ Sex: M_____ F_____

Date of Birth:__________________________
Month - Day - Year

Number of years as a teacher (include this year):________________

Number of years as an administrator (include this year):____________

Number of years employed in this school building (include this year):____________

Thank you very much for your cooperation. Please go on to page 2.

FORM O

INSTRUCTIONS:

The following is a study of what the general public thinks and feels about a number of important social and personal questions. The best answer to each statement below is your personal opinion. We have tried to cover many different and opposing points of view; you may find yourself agreeing strongly with some of the statements, disagreeing just as strongly with others, and perhaps uncertain about others. Whether you agree or disagree with any statement, you can be sure that many people feel the same as you do.

Mark each statement in the left margin according to how much you agree or disagree with it. Please mark every one. Write +1, +2, +3, or -1, -2, or -3, depending on how you feel in each case.

+1: I AGREE A LITTLE	-1: I DISAGREE A LITTLE
+2: I AGREE ON THE WHOLE	-2: I DISAGREE ON THE WHOLE
+3: I AGREE VERY MUCH	-3: I DISAGREE VERY MUCH

_____ 1. The United States and Russia have just about nothing in common.

_____ 2. The highest form of government is a democracy and the highest form of democracy is a government run by those who are most intelligent.

_____ 3. Even though freedom of speech for all groups is a worthwhile goal, it is unfortunately necessary to restrict the freedom of certain political groups.

_____ 4. It is only natural that a person would have a much better acquaintance with ideas he believes in than with ideas he opposes.

_____ 5. Man on his own is a helpless and miserable creature.

_____ 6. Fundamentally, the world we live in is a pretty lonesome place.

_____ 7. Most people just don't give a "damn" for others.

_____ 8. I'd like it if I could find someone who would tell me how to solve my personal problems.

_____ 9. It is only natural for a person to be rather fearful of the future.

_____ 10. There is so much to be done and so little time to do it in.

+1: I AGREE A LITTLE	-1: I DISAGREE A LITTLE
+2: I AGREE ON THE WHOLE	-2: I DISAGREE ON THE WHOLE
+3: I AGREE VERY MUCH	-3: I DISAGREE VERY MUCH

_____ 11. Once I get woundup in a heated discussion, I just can't stop.

_____ 12. In a discussion I often find it necessary to repeat myself several times to make sure I am being understood.

_____ 13. In a heated discussion I generally become so absorbed in what I am going to say that I forget to listen to what others are saying.

_____ 14. It is better to be a dead hero than to be a live coward.

_____ 15. While I don't like to admit this even to myself, my secret ambition is to become a great man like Einstein, or Beethoven, or Shakespeare.

_____ 16. The main thing in life is for a person to want to do something important.

_____ 17. If given the chance, I would do something of great benefit to the world.

_____ 18. In the history of mankind there have probably been just a handful of really great thinkers.

_____ 19. There are a number of people I have come to hate because of the things they stand for.

_____ 20. A man who does not believe in some great cause has not really lived.

_____ 21. It is only when a person devotes himself to an ideal or cause that life becomes meaningful.

_____ 22. Of all the different philosophies which exist in this world, there is probably only one which is correct.

_____ 23. A person who gets enthusiastic about too many causes is likely to be a pretty "wishy-washy" sort of person.

_____ 24. To compromise with our political opponents is dangerous because it usually leads to the betrayal of our own side.

_____ 25. When it comes to differences of opinion in religion, we must be careful not to compromise with those who believe differently from the way we do.

+1: I AGREE A LITTLE
+2: I AGREE ON THE WHOLE
+3: I AGREE VERY MUCH

-1: I DISAGREE A LITTLE
-2: I DISAGREE ON THE WHOLE
-3: I DISAGREE VERY MUCH

____ 26. In times like these, a person must be pretty selfish if he considers primarily his own happiness.

____ 27. The worst crime a person could commit is to attack publicly the people who believe in the same thing he does.

____ 28. In times like these it is often necessary to be more on guard against ideas put out by people or groups in one's own camp than by those in the opposing camp.

____ 29. A group which tolerates too much difference of opinion among its own members cannot exist for long.

____ 30. There are two kinds of people in this world: those who are for the truth and those who are against the truth.

____ 31. My blood boils whenever a person stubbornly refuses to admit he's wrong.

____ 32. A person who thinks primarily of his own happiness is beneath contempt.

____ 33. Most of the ideas which get printed nowadays aren't worth the paper they are printed on.

____ 34. In this complicated world of ours the only way we can know what's going on is to rely on leaders or experts who can be trusted.

____ 35. It is often desirable to reserve judgement about what's going on until one has had a chance to hear opinions of those one respects.

____ 36. In the long run the best way to live is to pick friends and associates whose tastes and beliefs are the same as one's own.

____ 37. The present is all too often full of unhappiness. It is only the future that counts.

____ 38. If a man is to accomplish his mission in life, it is sometimes necessary to gamble "all or nothing at all."

____ 39. Unfortunately, a good many people with whom I have discussed important social and moral problems don't really understand what's going on.

____ 40. Most people just don't know what's good for them.

FORM P

LEADER BEHAVIOR DESCRIPTION QUESTIONNAIRE

People have different perceptions of the behavior of the school principal. There are often conditions in a school system that cause the behavior of the principal to be perceived differently by his superintendent and his teachers. Because other people don't always know what a principal really does, teachers and superintendents often have different views of what a particular principal does. Many school principals are aware that a particular behavior on their part may be interpreted in a variety of ways by others.

INSTRUCTIONS:

You are asked to indicate how you believe you behave as a leader. Each item describes a specific kind of leader behavior. Mark the frequency with which you believe you engage in each kind of behavior. In addition, you are requested to indicate the frequency with which your SUPERINTENDENT and your TEACHERS see you as actually engaging in each kind of behavior.

Indicate your responses to each item by CIRCLING in the appropriate column the LETTER that best represents how often YOU actually engage in the behavior described by the item, and how often your SUPERINTENDENT and your TEACHERS perceive that you engage in this behavior.

Each letter in each column refers to the frequency with which you actually engage in the behavior or how often others perceive your engaging in the kind of leader behavior described in the item.

A	B	C	D	E
Always	Often	Occasionally	Seldom	Never

SAMPLE

ITEM ON PAGE 6		ANSWER SHEET	
	I	My TEACHERS perceive that I	My SUPERINTENDENT perceives that I
1. ...am spokesman of the group.	1. A [✓ B] C D E	A B [✓ C] D E	A [✓ B] C D E

Now turn the page and indicate your responses on the following pages. →

1. ...do personal favors for group members.
2. ...make my attitudes clear to the group.
3. ...do little things to make it pleasant to be a member of the group.
4. ...try out my new ideas with the group.
5. ...am easy to understand.
6. ...rule with an iron hand.
7. ...find time to listen to group members.
8. ...criticize poor work.
9. ...speak in a manner not to be questioned.
10. ...keep to myself.
11. ...look out for the personal welfare of individual group members.
12. ...assign my group members to particular tasks.
13. ...refuse to explain my actions.
14. ...work without a plan.
15. ...maintain definite standards of performance.
16. ...act without consulting the group.
17. ...am slow to accept new ideas.
18. ...emphasize the meeting of deadlines.
19. ...treat all group members as my equal.
20. ...encourage the use of uniform procedures.
21. ...am willing to make changes.
22. .. make sure that my part in the organization is understood by group members.
23. ...am friendly and approachable.
24. ...ask that group members follow standard rules and regulations.
25. ...make group members feel at ease when talking with them.
26. ...let group members know what is expected of them.
27. ...put suggestions made by the group into operation.
28. ...see to it that group members are working up to capacity.
29. ...get group approval in important matters before going ahead.
30. ...see to it that the work of group members is coordinated.

ANSWER SHEET #1

Key:	A	B	C	D	E
	Always	Often	Occasionally	Seldom	Never

	I					My TEACHERS perceive that I					My SUPERINTENDENT perceives that I				
1.	A	B	C	D	E	A	B	C	D	E	A	B	C	D	E
2.	A	B	C	D	E	A	B	C	D	E	A	B	C	D	E
3.	A	B	C	D	E	A	B	C	D	E	A	B	C	D	E
4.	A	B	C	D	E	A	B	C	D	E	A	B	C	D	E
5.	A	B	C	D	E	A	B	C	D	E	A	B	C	D	E
6.	A	B	C	D	E	A	B	C	D	E	A	B	C	D	E
7.	A	B	C	D	E	A	B	C	D	E	A	B	C	D	E
8.	A	B	C	D	E	A	B	C	D	E	A	B	C	D	E
9.	A	B	C	D	E	A	B	C	D	E	A	B	C	D	E
10.	A	B	C	D	E	A	B	C	D	E	A	B	C	D	E
11.	A	B	C	D	E	A	B	C	D	E	A	B	C	D	E
12.	A	B	C	D	E	A	B	C	D	E	A	B	C	D	E
13.	A	B	C	D	E	A	B	C	D	E	A	B	C	D	E
14.	A	B	C	D	E	A	B	C	D	E	A	B	C	D	E
15.	A	B	C	D	E	A	B	C	D	E	A	B	C	D	E

ANSWER SHEET #2

Key:	A	B	C	D	E
	Always	Often	Occasionally	Seldom	Never

	I					My TEACHERS perceive that I					My SUPERINTENDENT perceives that I				
16.	A	B	C	D	E	A	B	C	D	E	A	B	C	D	E
17.	A	B	C	D	E	A	B	C	D	E	A	B	C	D	E
18.	A	B	C	D	E	A	B	C	D	E	A	B	C	D	E
19.	A	B	C	D	E	A	B	C	D	E	A	B	C	D	E
20.	A	B	C	D	E	A	B	C	D	E	A	B	C	D	E
21.	A	B	C	D	E	A	B	C	D	E	A	B	C	D	E
22.	A	B	C	D	E	A	B	C	D	E	A	B	C	D	E
23.	A	B	C	D	E	A	B	C	D	E	A	B	C	D	E
24.	A	B	C	D	E	A	B	C	D	E	A	B	C	D	E
25.	A	B	C	D	E	A	B	C	D	E	A	B	C	D	E
26.	A	B	C	D	E	A	B	C	D	E	A	B	C	D	E
27.	A	B	C	D	E	A	B	C	D	E	A	B	C	D	E
28.	A	B	C	D	E	A	B	C	D	E	A	B	C	D	E
29.	A	B	C	D	E	A	B	C	D	E	A	B	C	D	E
30.	A	B	C	D	E	A	B	C	D	E	A	B	C	D	E

APPENDIX C

TEACHER'S QUESTIONNAIRE

TEACHER-PRINCIPAL-SUPERINTENDENT QUESTIONNAIRE

This questionnaire is developed to assess relationships between personal opinions and perceptions of school principals. There are two parts (FORM O and FORM P) to this questionnaire, and the directions and answering keys are different for each part. Before you answer any item in either part, be sure that you have read carefully the directions for that part. FORM O directions are on page 2, and FORM P directions are on page 5. Since it is important that every item is answered, a good procedure is to answer each item directly after you read it.

Objectivity is important in this research venture. Please be HONEST in responding to these items. All of your answers will be held in strictest confidence. They will be seen by NOBODY other than this researcher. The scoring, the analysis, and the report of the findings will be done by this researcher. Anonymity will be maintained throughout all these stages.

Now, fill in the information requested below. This information will be used ONLY for coding purposes during the analytic stage of this research.

BIOGRAPHICAL INFORMATION

Number________________________ Sex: M_____ F_____

Date of Birth:____________________
Month - Day - Year

Number of years as a teacher (include this year):__________________

Number of years as an administrator (include this year):____________

Number of years employed in this school building (include this year):__________

Thank you very much for your cooperation. Please go on to page 2.

FORM O

INSTRUCTIONS:

The following is a study of what the general public thinks and feels about a number of important social and personal questions. The best answer to each statement below is your personal opinion. We have tried to cover many different and opposing points of view; you may find yourself agreeing strongly with some of the statements, disagreeing just as strongly with others, and perhaps uncertain about others. Whether you agree or disagree with any statement, you can be sure that many people feel the same as you do.

Mark each statement in the left margin according to how much you agree or disagree with it. Please mark every one. Write +1, +2, +3, or -1, -2, or -3, depending on how you feel in each case.

+1: I AGREE A LITTLE	-1: I DISAGREE A LITTLE
+2: I AGREE ON THE WHOLE	-2: I DISAGREE ON THE WHOLE
+3: I AGREE VERY MUCH	-3: I DISAGREE VERY MUCH

_____ 1. The United States and Russia have just about nothing in common.

_____ 2. The highest form of government is a democracy and the highest form of democracy is a government run by those who are most intelligent.

_____ 3. Even though freedom of speech for all groups is a worthwhile goal, it is unfortunately necessary to restrict the freedom of certain political groups.

_____ 4. It is only natural that a person would have a much better acquaintance with ideas he believes in than with ideas he opposes.

_____ 5. Man on his own is a helpless and miserable creature.

_____ 6. Fundamentally, the world we live in is a pretty lonesome place.

_____ 7. Most people just don't give a "damn" for others.

_____ 8. I'd like it if I could find someone who would tell me how to solve my personal problems.

_____ 9. It is only natural for a person to be rather fearful of the future.

_____10. There is so much to be done and so little time to do it in.

+1: I AGREE A LITTLE   -1: I DISAGREE A LITTLE

+2: I AGREE ON THE WHOLE   -2: I DISAGREE ON THE WHOLE

+3: I AGREE VERY MUCH   -3: I DISAGREE VERY MUCH

_____ 11. Once I get woundup in a heated discussion, I just can't stop.

_____ 12. In a discussion I often find it necessary to repeat myself several times to make sure I am being understood.

_____ 13. In a heated discussion I generally become so absorbed in what I am going to say that I forget to listen to what others are saying.

_____ 14. It is better to be a dead hero than to be a live coward.

_____ 15. While I don't like to admit this even to myself, my secret ambition is to become a great man like Einstein, or Beethoven, or Shakespeare.

_____ 16. The main thing in life is for a person to want to do something important.

_____ 17. If given the chance, I would do something of great benefit to the world.

_____ 18. In the history of mankind there have probably been just a handful of really great thinkers.

_____ 19. There are a number of people I have come to hate because of the things they stand for.

_____ 20. A man who does not believe in some great cause has not really lived.

_____ 21. It is only when a person devotes himself to an ideal or cause that life becomes meaningful.

_____ 22. Of all the different philosophies which exist in this world, there is probably only one which is correct.

_____ 23. A person who gets enthusiastic about too many causes is likely to be a pretty "wishy-washy" sort of person.

_____ 24. To compromise with our political opponents is dangerous because it usually leads to the betrayal of our own side.

_____ 25. When it comes to differences of opinion in religion, we must be careful not to compromise with those who believe differently from the way we do.

+1: I AGREE A LITTLE -1: I DISAGREE A LITTLE

+2: I AGREE ON THE WHOLE -2: I DISAGREE ON THE WHOLE

+3: I AGREE VERY MUCH -3: I DISAGREE VERY MUCH

_____ 26. In times like these, a person must be pretty selfish if he considers primarily his own happiness.

_____ 27. The worst crime a person could commit is to attack publicly the people who believe in the same thing he does.

_____ 28. In times like these it is often necessary to be more on guard against ideas put out by people or groups in one's own camp than by those in the opposing camp.

_____ 29. A group which tolerates too much difference of opinion among its own members cannot exist for long.

_____ 30. There are two kinds of people in this world: those who are for the truth and those who are against the truth.

_____ 31. My blood boils whenever a person stubbornly refuses to admit he's wrong.

_____ 32. A person who thinks primarily of his own happiness is beneath contempt.

_____ 33. Most of the ideas which get printed nowadays aren't worth the paper they are printed on.

_____ 34. In this complicated world of ours the only way we can know what's going on is to rely on leaders or experts who can be trusted.

_____ 35. It is often desirable to reserve judgement about what's going on until one has had a chance to hear opinions of those one respects.

_____ 36. In the long run the best way to live is to pick friends and associates whose tastes and beliefs are the same as one's own.

_____ 37. The present is all too often full of unhappiness. It is only the future that counts.

_____ 38. If a man is to accomplish his mission in life, it is sometimes necessary to gamble "all or nothing at all."

_____ 39. Unfortunately, a good many people with whom I have discussed important social and moral problems don't really understand what's going on.

_____ 40. Most people just don't know what's good for them.

FORM P

LEADER BEHAVIOR DESCRIPTION QUESTIONNAIRE

This is a questionnaire on which you may describe the behavior of your principal. Each item describes a specific kind of behavior without invoking any judgement about the desirability or understandability of that behavior. These questions in no way constitute a "test" of the ability of the person who answers the items. Nor do they involve an evaluation of the effectiveness of the principal's performance. It is possible, however, from this straightforward description of the frequency with which the principal engages in specific kinds of behavior to identify certain distinct leadership styles.

Your answers will NOT be seen by the principal. This questionnaire will be scored and the results analyzed by this researcher. The report of the findings will preserve the anonymity of your answers.

Thank you.

DIRECTIONS:

1. READ each item carefully.
2. THINK about how frequently your principal engages in the behavior described by the item.
3. DECIDE whether he always, often, occasionally, seldom, or never acts as described by the item.
4. DRAW A CIRCLE around one of the five letters following the item to show the answer you have selected.

A. Always
B. Often
C. Occasionally
D. Seldom
E. Never

Please precede each statement with:

	"My principal . . ."	ALWAYS	OFTEN	OCCASIONALLY	SELDOM	NEVER
1.	...does personal favors for group members.	A	B	C	D	E
2.	...makes his attitudes clear to the group	A	B	C	D	E
3.	...does little things to make it pleasant to be a member of the group.	A	B	C	D	E
4.	...tries out his new ideas with the group	A	B	C	D	E
5.	...is easy to understand	A	B	C	D	E
6.	...rules with an iron hand.	A	B	C	D	E
7.	...finds time to listen to group members	A	B	C	D	E
8.	...criticizes poor work	A	B	C	D	E
9.	...speaks in a manner not to be questioned	A	B	C	D	E
10.	...keeps to himself.	A	B	C	D	E
11.	...looks out for the personal welfare of individual group members	A	B	C	D	E
12.	...assigns his group members to particular tasks	A	B	C	D	E
13.	...refuses to explain his actions	A	B	C	D	E
14.	...works without a plan	A	B	C	D	E
15.	...maintains definite standards of performance	A	B	C	D	E
16.	...acts without consulting the group	A	B	C	D	E
17.	...is slow to accept new ideas	A	B	C	D	E
18.	...emphasizes the meeting of deadlines.	A	B	C	D	E
19.	...treats all group members as his equal	A	B	C	D	E
20.	...encourages the use of uniform procedures	A	B	C	D	E

Please precede each statement with:

"My principal . . ."

		ALWAYS	OFTEN	OCCASIONALLY	SELDOM	NEVER
21.	...is willing to make changes	A	B	C	D	E
22.	...makes sure that his part in the organization is understood by group members	A	B	C	D	E
23.	...is friendly and approachable	A	B	C	D	E
24.	...asks that group members follow standard rules and regulations	A	B	C	D	E
25.	...makes group members feel at ease when talking with them	A	B	C	D	E
26.	...lets group members know what is expected of them.	A	B	C	D	E
27.	...puts suggestions made by the group into operation	A	B	C	D	E
28.	...sees to it that group members are working up to capacity	A	B	C	D	E
29.	...gets group approval in important matters before going ahead.	A	B	C	D	E
30.	...sees to it that the work of group members is coordinated.	A	B	C	D	E

APPENDIX D

COMPUTER PROGRAM FOR TABULATION OF RESPONSES FROM QUESTIONNAIRES

```
      DIMENSION J1(40), J2(15), J3(15)
      JOE = 0
    5 READ 10, IDENT, (J1(I), I=1,40), (J2(K), K=1,15), (J3(L), L=1,15)
      JOE = JOE + 1
      IF (IDENT) 70, 70, 25
   10 FORMAT (I10, 40I1, 15I1, 15I1)
   25 JSUM1=0
      DO 50 I=1,40
      JSUM1=JSUM1+J1(I)
   50 CONTINUE
      JSUM2=0
      DO 60 K=1,15
      JSUM2=JSUM2+J2(K)
   60 CONTINUE
      JSUM3=0
      DO 90 L=1,15
      JSUM3=JSUM3+J3(L)
   90 CONTINUE
      IF (JOE-1) 100, 100, 101
  100 PRINT 30, IDENT, JSUM1, JSUM2, JSUM3
   30 FORMAT (1H1, I10, 10X, I3, 10X, I2, 10X, I2)
      GO TO 102
  101 PRINT 31, IDENT, JSUM1, JSUM2, JSUM3
   31 FORMAT (1H , I10, 10X, I3, 10X, I2, 10X, I2)
  102 PUNCH 32, IDENT, JSUM1, JSUM2, JSUM3
   32 FORMAT (I10, 10X, I3, 10X, I2, 10X, I2)
      GO TO 5
   70 STOP
      END
```

APPENDIX E

SCORING KEY FOR THE ITEMS OF THE LEADER BEHAVIOR DESCRIPTION QUESTIONNAIRE

Item No.	Dimension	SCORING KEY A	B	C	D	E
1	Consideration	4	3	2	1	0
2	Initiating Structure	4	3	2	1	0
3	Consideration	4	3	2	1	0
4	Initiating Structure	4	3	2	1	0
5	Consideration	4	3	2	1	0
6	Initiating Structure	4	3	2	1	0
7	Consideration	4	3	2	1	0
8	Initiating Structure	4	3	2	1	0
9	Initiating Structure	4	3	2	1	0
10	Consideration	0	1	2	3	4
11	Consideration	4	3	2	1	0
12	Initiating Structure	4	3	2	1	0
13	Consideration	0	1	2	3	4
14	Initiating Structure	0	1	2	3	4
15	Initiating Structure	4	3	2	1	0
16	Consideration	0	1	2	3	4
17	Consideration	0	1	2	3	4
18	Initiating Structure	4	3	2	1	0
19	Consideration	4	3	2	1	0
20	Initiating Structure	4	3	2	1	0
21	Consideration	4	3	2	1	0
22	Initiating Structure	4	3	2	1	0
23	Consideration	4	3	2	1	0
24	Initiating Structure	4	3	2	1	0
25	Consideration	4	3	2	1	0
26	Initiating Structure	4	3	2	1	0
27	Consideration	4	3	2	1	0
28	Initiating Structure	4	3	2	1	0
29	Initiating Structure	4	3	2	1	0
30	Consideration	4	3	2	1	0